TECHNOLOGY DEPT.

NATIONAL PETROLEUM NEWS

Volume 34 | May 13, 1942 | Number 19

MAY 14 1942
DETROIT

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Refining Edition

Design Refinery For 3-Year Life Is WPB's Advice

The shortage of chromium and nickel for high strength steels makes necessary the specifying of minimum content of these alloy metals for the steels to be used in building new refining units, oil company representatives are told by the War Production Board. Refiners are advised to design new plants for 3-year life. Page R-145.

Chromium's Effect In Refinery Steel

How corrosion resistance and other characteristics of alloy steels in cracking coil tuoes are affected by variations in the chromium content are given in data from an investigation of tubes in service in three refineries. Page R-147.

Scrap Collections Speeded by Expert

California Standard has appointed a conservation specialist to rush the collection of all scrap material which cannot be salvaged and put to some immediate use. All departmental heads have been given an organization outline prepared by WPB. Page R-152.

Diesel Locomotive Advantages Listed

Advantages in flexibility, reliability and maintenance were claimed for Diesel locomotives in through-passenger service, during discussion of operating records at Midwest Power Conference in Chicago. Competing with Diesel, however, is a constantly improving design in steam locomotives. Page R-156.

'Alky-Rubber' Gets Farm Bloc Support

WASHINGTON—Big names in Congress' farm bloc give active support to agricultural alcohol-rubber proposals, with proponents capitalizing on reports that oil-rubber projects are "still on the drafting boards". Agriculture Secretary Wickard backs program. Page 13.

BULLETINS

P.I.W.C. PRICE GROUP

WASHINGTON — P.I.W.C. plans to set up a statistical committee to supply data requested by OPA for use in its consideration of measures to offset added wartime costs of petroleum industry. Committee would be headed by John D. Gill, Atlantic Refining Co.

* * *

'TEETH' IN RATION PLAN

WASHINGTON—"Teeth" in the temporary gasoline rationing plan were bared with issuance of the regulations including a provision for cutting off gasoline supplies of violators and penalties of $10,000 fine or one year's imprisonment, or both.

* * *

U. S. CRUDE PRODUCTION

NEW YORK—U. S. crude production the week ended May 9 was 3,544,350 bbls. daily, up 209,350 bbls. from the previous week, according to figures of American Petroleum Institute. Texas production was up 179,300 bbls. daily to 1,075,850 bbls.

* * *

CANADA CUTS TOURISTS

WASHINGTON—As of May 15, Canada "will drastically reduce" gasoline rations for U. S. tourists, allowing 20 imperial gal. a year, or less, Canadian legation says.

'Gas' Ration Unit Set at 3 Gallons

WASHINGTON — OPA sets "gas" ration unit at 3 gal., giving "A" card holders 21 gal. for next 7 weeks. Meantime, confusion exists over boundaries. OPC recommends exemption from L-70 for 93 counties; Henderson indicates same counties will be exempt from rationing. Registration began, however, with no exemption order issued. Page 3.

OPC May Take 30% Of Cars for East

WASHINGTON — Requisitioning by OPC of 30% of tank cars not now used in service to the East Coast is a prospect with issuance of OPC "Directive No. 50", setting forth a program designed to still further increase rail shipments eastward. Story Page 3; text of directive, Page 24.

'Gas' Demand Drop Of 7% Predicted

WASHINGTON — Total May motor fuel demand will be 7% below 1941, Bureau of Mines predicts. This means a deeper cut than 7% in civilian demand, as estimate allowed for increased demand by military and export requirements. Page 9.

First Case Filed With Price Court

WASHINGTON — Special court set up by the Emergency Price Control Act to hear appeals from rulings of Office of Price Administration gets its first case—involving gathering charges in East Texas. Page 22.

Texas May Refuse OPC Crude Quota

AUSTIN—Poll of available members (Commissioners Sadler and Culberson) of Texas Railroad Commission shows majority stands firm against accepting OPC's production recommendation for May. Page 3.

NEWS BRIEFS

OPC recommends only 1-day empty tank car supply for shippers. Page 23

* * *

Order banning short tank car hauls not effective until June 1. Page 23.

* * *

States told to remove truck barriers or U.S. will act. Page 26.

* * *

640,478 bbls. hauled to East Coast by tank car. Page 28.

* * *

Armed guards watch for sabotage in East Texas field. Page 18.

* * *

Florida pipeline backed by Texans in Congress. Page 22.

* * *

OPC drafts plan to control refinery runs and yields. Page 7.

* * *

P.I.W.C. discusses bill to suspend anti-trust laws. Page 8.

* * *

OPC program plans 9 new pipeline projects. Page 8.

* * *

WPB cracks down on alleged M-68 violator. Page 18.

* * *

RFC to aid distressed producers with loans. Page 7.

* * *

Southeastern co-op group gets charter; plans second meeting. Page 4.

MERCHANDISING

Kansas Oil Jobber Builds Community Hall 30
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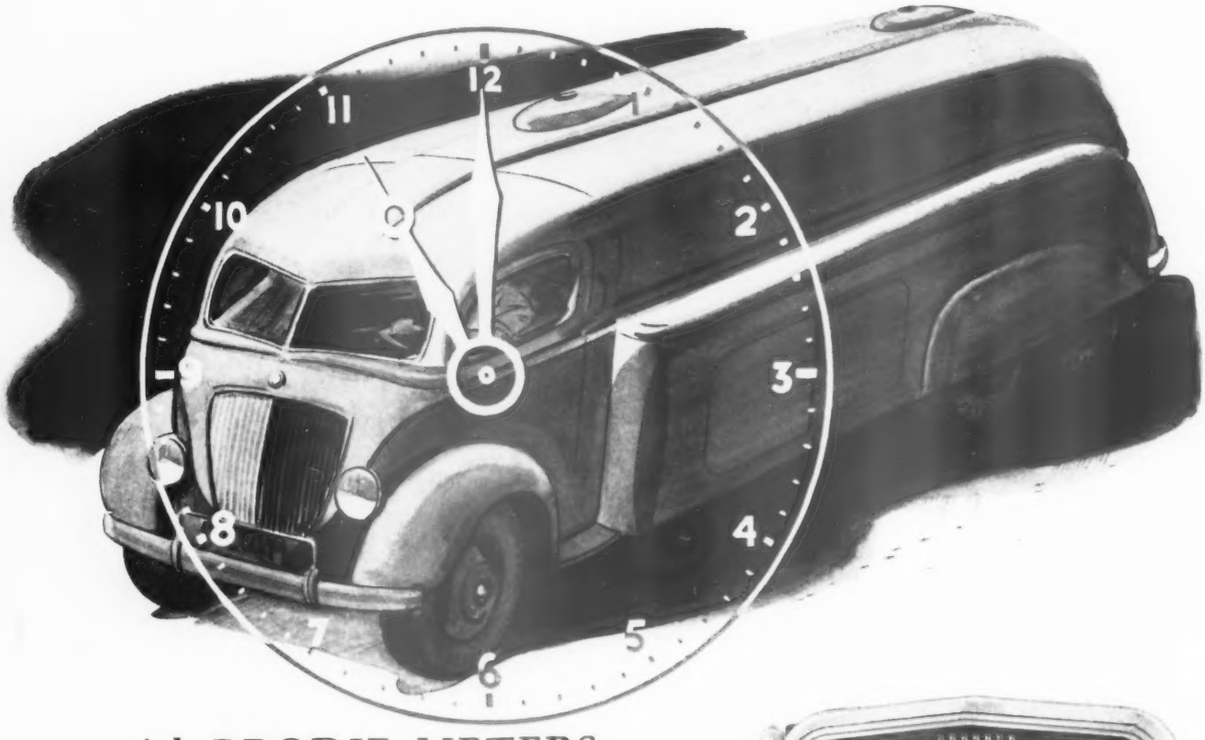

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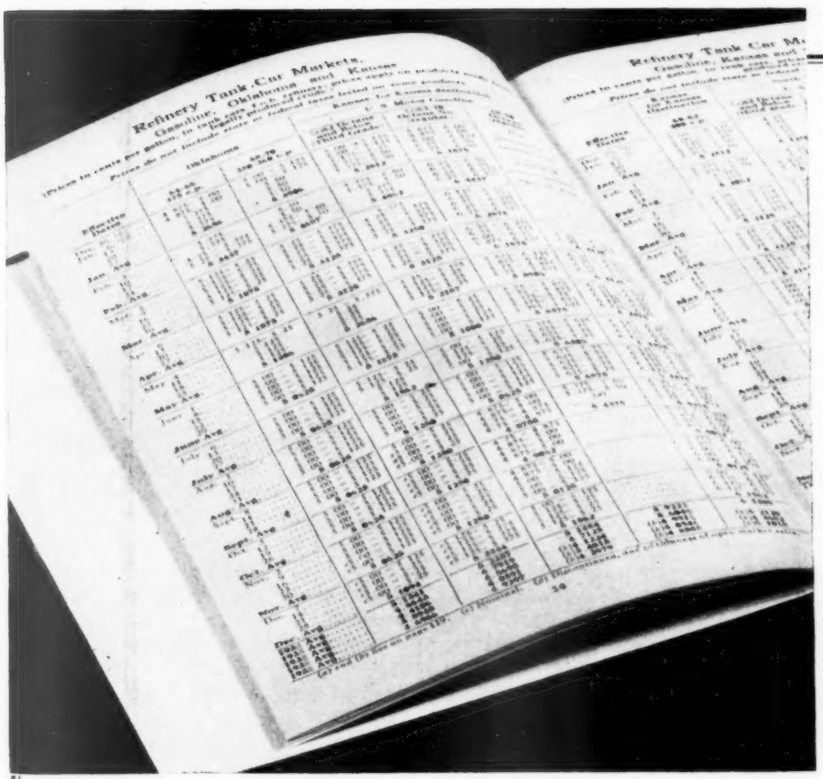

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Another Texas Oil Man Honored For Contribution to Industry

The United States' skirmish with Mexico in 1915 was the indirect cause of William Morris Griffith casting his lot with the oil industry. The wisdom of his choice may be gauged by his present position in the industry: He is vice-president, general manager and a director of Plymouth Oil Co. (Benedum-Trees), vice-president and a director of Portilla Drilling Co., and recently was awarded a plaque for outstanding contributions to the industry at the recent annual Oilmen's Jubilee of the South Texas Chamber of Commerce at San Antonio.

William Morris Griffith

Youthful, husky and enthusiastic toward any project in which he engages, Mr. Griffith has participated in polo, baseball and most other sports, owns and operates a 4000-acre ranch in Bee and San Patricio counties on which he raises registered white-faced Hereford cattle.

Born in Butler, Md., on Nov. 9, 1897, Mr. Griffith was educated in the public schools there. In 1915 he went to Texas with the Maryland State Militia for patrol duty on the Mexican border. When General John J. Pershing led his expedition into Mexico, young Griffith was part of it. In March, 1917, he entered the United States Army, infantry division, as a sergeant. He served throughout World War I and afterward was honorably discharged as 1st lieutenant.

Remembering his days in Texas before the war, he returned there to begin his oil career.

He dressed tools through the Desdemona, Ranger, Mexia and Pioneer oil field booms and during the lapse of drilling and shutdown of fields drove a steam roller and operated a pile driver for a road construction company. He started roustabouting for Big Lake Co. in Reagan County in 1924. Successively he was promoted to time keeper, purchasing agent, assistant field superintendent, and later supervised the drilling of the first Ordovician wells in Reagan County.

He went to South Texas in 1933 and drilled discovery wells of the Plymouth and East White Point fields of San Patricio County for Plymouth Oil Co. He supervised development of both of these fields for the company, as well as the Big Pigeon field in Iberia Parish, La., in which he also drilled to discovery well. In 1938, he was made vice-president, general manager and director of the company.

Mr. Griffith also is a leader in civic and fraternal organizations. He is a member of the board of directors of Texas College of Arts and Industries, a member of the executive committee of the South Texas Chamber of Commerce and a member of Consistory, El Maida Temple at El Paso.

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VOLUME 34 WEDNESDAY, MAY 13, 1942 NUMBER 19

Oil Subsidy 'Last Resort', OPA Reports

WASHINGTON—What course Office of Price Administration will take in offsetting added wartime costs of the petroleum industry is somewhat uncertain, now that Leon Henderson, OPA chief, has stated—talking about oil specifically—that a subsidy would be the last resort.

Previously, Dr. George W. Stocking, chief of OPA's fuel section, had told the Petroleum Industry War Council on May 5 that OPA was working on an oil subsidy plan. Talk was that this would cost $300,000,000 a year.

Next, California oil companies conferred with OPA's oil unit on the proposed "pool" to offset added cost of supplying the Pacific Northwest by rail instead of tankers. The Californians were told that in view of OPA's general price "freeze" no increase in retail prices could be considered. Instead, some form of subsidy might be worked out, OPA officials indicated.

Then came Mr. Henderson's testimony May 8 before the Cole oil committee. Congressman Kelly, Ill., asked point-blank if OPA would allow oil companies to increase prices to offset higher costs, and if not what method would be used.

Mr. Henderson said he had

(*Continued on page* 7)

Ban on Gasoline Hauls Modified by Davies

NPN News Bureau

NEW YORK—Deputy Petroleum Co-ordinator Davies has modified his request for elimination of tank car and tanker shipments of gasoline from points outside to points within District 1. His telegraphic request to halt gasoline shipments and switch to heavy fuel oil (*NPN May* 6, *p.* 3), was made to an undisclosed number of eastern oil companies on May 1.

In his latest wire (May 7) Mr. Davies said:

"Referring to our telegram of May 1 calling upon you temporarily to move only fuel oil in tankers and tank cars into District 1 to relieve critical supply situation. This wire is to modify that message to the extent of approving as exceptions to the rule those tanker and tank car movements found to be definitely necessary to meet the various physical supply and transportation problems involved. In view of the extreme shortage of heavy fuel oil we continue to expect that every company will hold exceptions to a minimum and move into the district a maximum of fuel oil in preference to all other products."

Texas May Refuse OPC Crude Quota

Special to NPN

AUSTIN — Two members of the 3-man Texas Railroad Commission indicated May 12 that they will defy OPC and issue Texas oil order for last half of May far in excess of Petroleum Co-ordinator Ickes' recommended 960,000 bbls. daily.

Jerry Sadler said he would not sign any order which does not permit 1,400,000 daily, and Olin Culberson said he was in substantial agreement with Mr. Sadler. This was the amount of purchasers nominations at special hearing Monday.

Chairman Ernest Thompson was out of the state.

Back to Pre-War Level

Commission already has declined to meet OPC's figure for first half of May, and production now about 1,160,000 bbls. Commissioner earlier had indicated production would be cut severely last of month to bring total May figure somewhere in reach of Ickes estimate. But now it apparently will hike figure back to pre-war levels.

Sadler said purchasers testified that there are 50,000,000 bbls. of empty refinery storage, and charged that companies are telling Ickes one thing and Commission another.

Hits Secrecy

"I believe it's high time to bring these irregularities out into open," he said.

Sadler also said he had offered to be taken into active military service. He is 34 and once served with cavalry. "My own feelings would not permit me to leave here with the memory of having signed an order below 1,400,000, thus permitting a major company inroad toward stifling the small operators, and men, women and children whose daily bread is derived from oil business," he stated.

OPA Sets 3 Gallons As 'Gas' Ration Unit

NPN News Bureau

WASHINGTON—Under direction of Office of Price Administration, gasoline rationing goes into effect on May 15 in 17 eastern states where "non-essential" drivers will be allowed an average of 3 gal. a week until July 1, although persons who drive to work, or use their cars in their work, will be allowed more and commercial users will not be restricted.

The paradox of too much gasoline in refining areas and not enough in the East is explained by the acute transportation shortage.

Rationed Area

Rationing is effective in:

Connecticut, Delaware, Florida east of the Apalachicola River, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, West Virginia and the District of Columbia, except that the area is expected to be re-defined to eliminate western New York, western Pennsylvania, western tip of Maryland, virtually all of West Virginia and part of southwestern Virginia.

OPA said the 3-gal. unit value was based upon supply figures of Office of Petroleum Co-ordinator and it was estimated the projected 50% cut in eastern deliveries would leave 401,784,600 gal. for passenger cars between May 15 and July 1.

Henderson Gives Views

OPA estimated on the basis of a 1938 survey by Public Roads Administration that about one-third of the 8,500,000 car owners of the area would receive the basic "A" card containing 7 units good for 3 gal. each which Price Administrator Henderson told the Cole oil investigating subcommittee on May 8 was a "damn sight more than

(*Continued on page* 5)

30% of Remaining Tank Cars May be Taken for East Coast

(Text of OPC Order on p. 24)

NPN News Bureau

WASHINGTON—Requisitioning of up to 30% of the tank car capacity in Districts 1, 2 and 3, not now being used to haul crude and products to the East Coast, is provided for in Office of Petroleum Co-ordinator's Directive No. 50.

To carry out the administrative details of this requisitioning plan, the directive provides for a Joint Tank Car Subcommittee to be comprised of 2 members from each of the above 3 districts. Then, District 2's transportation director is to sit with this subcommittee as adviser and consultant in all deliberations and is to act as liaison officer between this subcommittee and OPC's transportation director.

Aim of this plan is to bring greater amounts of crude and products—with the emphasis on heavy oil—to the East Coast.

The directive also provides for a change in refinery yields for Districts 1, 2 and 3, "to effect an adequate wartime balance of refinery operations."

Number of tank cars, loaded and unloaded, which were available to tank car users in Districts 1, 2 and 3 as of noon, May 4, will be the "yardstick" employed by the Joint Tank Car Subcommittee in determining what constitutes 30% of tank car capacity of users in these 3 districts.

Subcommittee Set Up

This subcommittee is to prepare schedules—subject to approval by OPC's chief counsel—providing for the release of up to 30% of the tank car capacity not now used to haul

(*Continued on page* 23)

Southeast Oil Trucker Group Gets Charter; Plans Meeting

By Special Correspondent

SPARTANBURG, S. C. — South Carolina charter has been granted to War Emergency Co-operative Assn.—changed from War Emergency Transport Assn. to meet South Carolina co-operative charter laws. At same time John L. Rogers, director of Office of Defense Transportation's motor transport division, has called a second meeting of for-hire, charter and private petroleum truckers of the Carolinas, Georgia and Florida to put streamlined highway oil deliveries into action. Organization was formed in Charlotte, N. C., May 1 (*NPN May 6, p. 21*).

Conference will be held at Ansley Hotel, Atlanta, Ga., at 2 p.m. May 15, with Sam F. Niness, chief, petroleum section, motor transport division, ODT, present to assist Mr. Rogers.

Application has been filed with Interstate Commerce Commission for authority for all association-member carriers to operate as common carriers thus to share in proportionate tariffs at pipeline terminals. L. A. Odom, Spartanburg jobber and president of W.E.C.A., has just returned from Washington with assurances that ICC will probably grant necessary rulings for full operation of W.E.C.A. by May 18.

May Haul Off Plantation

W.E.C.A. is moving not only to load and haul from Southeastern pipeline terminals at Atlanta and Macon, but to transport Jersey Standard and Shell supplies on short hauls from terminals of Plantation pipeline throughout the Carolinas and Georgia and Florida and by-pass future tanker, inland waterway barge and other pipeline deliveries by all refineries entering the 4-state zone, Mr. Odom said.

For-hire, contract and private carriers will also benefit from association-issued group insurance if ICC approves this new move, said Mr. Odom. He said this would result in huge savings for small transporters.

Transporters may also be able to share in priority tire and equipment rights as association members, it was believed.

W.E.C.A. charter lists 100 members with capitalization of $2500, set low because of the co-operative nature of the incorporation. Cost of membership is $25.

Plan 130-Hour Week

At Atlanta meeting, permanent officers of W.E.C.A. will be elected and final plans to put all trucks in the 4-state zone into full 130-hour-or-better operation will be drawn.

Not all transports in the Carolinas, Florida and Georgia have joined W.E.C.A., but applications for membership are reported flooding into Spartanburg temporary headquarters. ODT ruling will be, according to announcement, that all carriers must operate 130-hour week throughout the zone or lease transports to W.E.C.A. or to some for-hire chain which can use them, Mr. Odom asserts. In the area, according to estimate, there are 100 "idle" transports—those working less than 130 hours weekly.

Mr. Odom says in corporation that W. C. Hamirick, Gaffney, S. C. jobber, instead of R. L. Brenson, High Point, N. C., as previously announced, is serving as association secretary-treasurer.

Plans are now being drawn to carry oil of any refinery in trucks of specified refinery jobbers, operating the transports to and from any destination in the authorized zone.

Canada Orders Switch From Oil to Coal

Special to NPN

OTTAWA — Approximately 600 Canadian heating plants using fuel oil have been ordered to switch to coal by Oil Controller George R. Cottrelle. The change-over must be made by July 31st. Private residences were not included in the order.

The plants affected include banks, theaters, apartment houses, office buildings, provincial and municipal establishments and commercial and industrial plants heretofore using oil for heating and the production of steam.

Golf Tournament Planned

Special to NPN

INDIANAPOLIS — The divots will be flying on Thursday, May 28, when the Indianapollis Oil Club holds its 5th annual golf tournament. All oil men are invited including suppliers and equipment representatives. Prizes will be awarded at a club luncheon on June 4 at Hotel Severin.

Dr. Frey to Speak

Special to NPN

RICHMOND, Va.—Dr. John W. Frey, director of marketing, Office of Petroleum Co-ordinator, will address the Virginia Oil Men's convention here May 22, according to announcement of John O. Little, secretary.

Presidents Council to Meet; Invites All Oil Jobbers

Special to NPN

INDIANAPOLIS — Presidents Council of Petroleum Marketers Assns. meets here at Hotel Severin May 27 with an open invitation to the secretaries and boards of directors of all state oil jobber groups in the nation.

The council is anxious to have nationwide attendance for this meeting which will take up many important subjects including the question of adequate representation for jobbers on the Petroleum Industry War Council.

Other topics scheduled for discussion include the rubber situation and what jobbers can do to speed the production of synthetic rubber for civilian use; the question of whether or not the Presidents Council should make any representations to Washington officials with regard to price ceilings; Conservation Order M-68-c and its operation and need for amendments, if any; and gasoline rationing.

Changes Proposed In North Carolina 'Gas' Grading Law

Special to NPN

RALEIGH, N. C.—Modification of the state gasoline grading regulations—to set a rock-bottom minimum for any motor fuel sold and then allow each individual supplier to determine his own specifications for each grade—was urged here May 7 at hearing before North Carolina Gasoline & Oil Inspection Board. Such a plan would be similar to the Florida inspection regulations.

At present, North Carolina sets specifications for each grade of motor fuel, including A.S.T.M. octane numbers (minimum by service station test) as follows: Premium, 75; Regular, 68; and Third Grade, 60.

Regulations Explained

State regulations now require posting labels on pumps dispensing each grade. However, by 1941 amendment of the grading law, the inspection board in its discretion may change the specifications or the grading system or drop the labeling provision. Any gasoline meeting the state specifications for "regular" is entitled —and required—to post the state label, "North Carolina Regular Grade".

Branded marketers, including independent jobbers, have favored dropping of the pump label requirement. Private brand and unbranded marketers, on the other hand, have wanted to retain the labels.

Major company representatives and the North Carolina Independent Oil Jobbers Assn. urged dropping of the labeling provision. Sam B. Brockwell, Durham, strongly urged that pump labeling be continued.

Mr. Brockwell gained newspaper headlines throughout North Carolina with dispatches crediting him with saying that there was no shortage of gasoline in the state and that there was no justification for a 3 or 4c advance in gasoline prices.

Other than Mr. Brockwell, all witnesses backed the proposal.

Back 'Florida Plan'

Florida's plan requires that any gasoline sold as motor fuel must meet a certain minimum specification. Then, each supplier must file an affidavit each month stating the minimum specifications, including octane number, for each grade he sells. The state compiles and issues a list of each supplier's specifications. State inspectors check periodically to see if samples live up to the specifications as stated by the supplier.

For North Carolina, it was suggested that the rockbottom minimum be about the same as U. S. Motor except that octane number of 60 or 65 (A.S.T.M.) be included. Sulphur maximum might be raised from 0.1% to 0.25%.

Jobbers Back Plan

Representing the North Carolina jobbers association, W. A. Parker, Raleigh, said that he had polled his entire membership (more than 100 independent jobbers throughout the state) on the question of gasoline grading. He received replies from 36 members, of which 35 favored dropping of the label requirement and one opposed it.

Chairman A. J. Maxwell of the state inspection board said a decision would be reached as soon as board had had a chance to study record of the hearings. It was expected that this might be within two or three weeks.

Other members of the inspection board are: Sam M. Mason, Andrew Joyner, Jr., and W. T. Spencer. The secretary is H. L. Shankle.

First Quarter Gallonage Higher in Connecticut

Special to NPN

HARTFORD, Conn. — Taxable gasoline gallonage in Connecticut for first quarter of 1942 totaled 84,696,066 gal. as compared with 83,479,427 gal. in same period of 1941. January 1942 was 2,233,805 gal. higher than 1941; February, 263,801 gal. below 1941; March, 753,363 gal. below 1941.

NPN Reports from WASHINGTON

News for ALL branches of the Oil Industry

WASHINGTON BUREAU, 803-805 National Press Bldg. ● Telephone National 3477 ● STAFF: A. M. Petty, Warren W. Burns, O. H. Knight, James M. Collins

OPA Sets 3 Gallons as Unit For East's 'Non-Essentials'

(*Continued from page* 3)

he (the individual driver) is entitled to".

He told the Federal-State Conference on War Restrictions (trade barriers) on May 6 that no decision had been made on extending rationing to other areas, and predicted the East Coast could settle down to reduced gasoline rations "for a long time to come" regardless of what transportation improvements are made.

Meantime, War Production Board, in Supplementary Directive 1-H, gave OPA formal authority to ration gasoline in the area described above and within 50 miles of the western boundary of that area, and Petroleum Co-ordinator Ickes said it is his job to supply petroleum for armed forces; Mr. Henderson's that of rationing those supplies.

OPA also issued ration regulations governing mechanics of operations.

Plan Is 'Temporary'

The rationing system going into effect on May 15 is temporary. Officials are now at work devising a "permanent" system which will use coupons. Thus far, it has been indicated that this coupon system would have a 2-way control: first, it will be based on essentiality of use; second, the service station operator will replenish his supplies only on the basis of the coupons he hands in each month.

How Rationing Works

Gasoline rationing is directed by OPA through its network of about 9000 Local War-Time Price and Rationing Boards, which OPA likes to call the "committee of neighbors".

This temporary plan is called a card system, using 5 different cards which were to be issued at public schools on May 12, 13 and 14.

The "A" card is the basic card and goes to non-essential motorists—those who use their cars mostly for pleasure purposes. The "B" cards (B-1, B-2, B-3) go to persons who use their cars to get to and from work or in pursuit of their work. The "X" card goes to essential users who may buy as much gasoline as they want.

Value of Cards

Hence, during the 7-week period, the A card is good for 21 gal.; B-1 for 33; B-2 for 45; and B-3 for 57.

Motorists are free to use as many of the units at one time as they please, so the plan does not enforce a strict weekly ration.

The fifth card—"X"—has no squares on it. Across the bottom are written the words: "For Essential Use"—the sesame to a full tank as often as necessary.

"X" card is to be used by ambulances, hearses, public carriers or conveyances for hire or for public rental, by ministers, doctors and nurses in their professional capacity, for official federal, state local or foreign government business; for trucking, towing, delivery, mail carrying and messenger services; for transportation of materials and work crews in construction and maintenance; and for dredging, guiding, lumbering or other specified means of livelihood in the case of a boat.

What Supplier Does

Limitation Order L-70, which governs gasoline deliveries to service stations, remains in effect along the Atlantic Seaboard. This order has made a 33 1/3% dent in deliveries up until now, but beginning May 16—according to an announcement on May 5 by War Production Board—deliveries are to be cut to 50%.

Non-highway users are to receive as much gasoline as they need, but they must fill out OPA Form R-510—"Certificate to Transfer of Gasoline for Use Other Than in Motor Vehicles or Inboard Motor Boats"—which specifies the amount purchased and the use to which it will be put, such as in farm machinery, non-highway vehicles, stoves and furnaces, pumps, stationary engines, cleaning and dyeing establishments and outboard motor boats.

Bulk purchases are limited only to the extent provided by L-70.

Every time an oil company puts gasoline in one of its cars which needs a ration card, the unit or units are to be defaced.

What Dealer Does

Key figure is the dealer himself.

He is the man on the firing line who will handle all of the cards, a lot of the complaints. He will have to parry the attempts of motorists to obtain gasoline without a ration card.

This is what the dealer does:

The motorist drives in, hands over his ration card. The attendant checks the ration card—containing the license number and a description of the passenger car—against the vehicle. He makes sure there are enough units on the card to cover the purchase. When he has delivered the gasoline into the tank, he punches, marks, or otherwise defaces the unit.

For example, if an "A" card is presented for a 3 gal. purchase, he defaces one unit. If 6 gal. are bought, he defaces 2 units. If less than 3 gal. are purchased, he defaces a full unit. Thus, if the purchase is 8 gal., he defaces 3 units.

Other Details Given

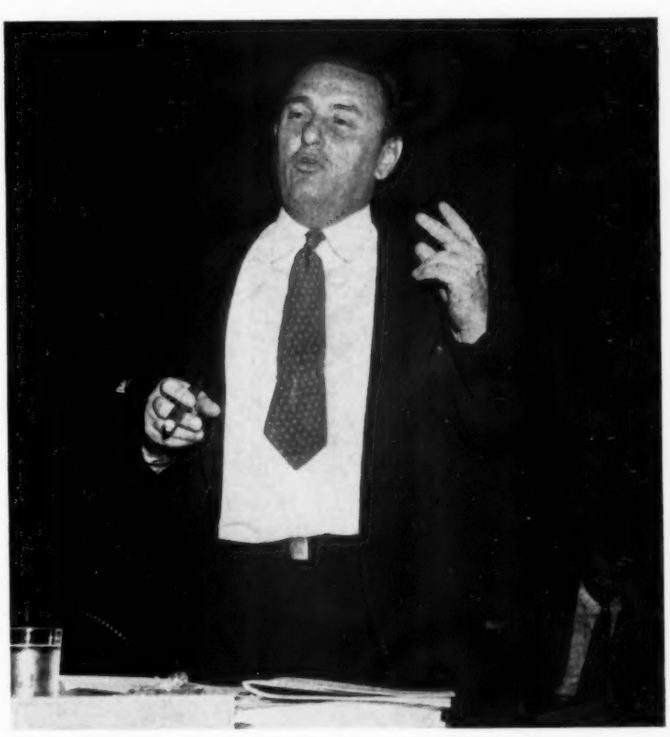
A detached unit is not to be honored unless detached in the dealer's presence.

When an "X" card is presented, the dealer checks it against the vehicle and sells any reasonable amount asked for, provided he has it. The "X" cards are not to be punched, marked or defaced in any way.

Delivery of gasoline into a container may be made in the following instances:

1. If a car or boat runs out of gasoline, the dealer is author-

'It's a Damn Sight More . . .'



Price Administrator Henderson as he told Cole oil investigating subcommittee that 2 or 3 gal. of gasoline is a "damn sight more than he (the individual driver) is entitled to"

ized to deliver gasoline into a container upon presentation of a ration card. If an "A" or "B" card is presented, delivery may not exceed one unit.

2. Where gasoline is purchased for use in an inboard motor boat from other than a marine filling station located on the waters in the vicinity in which the boat is operated, the dealer is authorized to deliver gasoline into a container presented with the proper ration card.

3. Where a vehicle or boat which would be entitled to an unrestricted quantity of gasoline runs out of gasoline, the dealer is authorized to provide gasoline in a container upon presentation of a registration certificate.

Exemption of 93 District 1 Counties From 'Gas' Curtailment Urged by OPC

WASHINGTON — Elimination of 93 counties from the eastern area in which the 50% cut in gasoline deliveries will commence on May 16 is recommended by Office of Petroleum Co-ordinator with the warning that restrictions may again have to be imposed in these counties because overland transportation may be diverted to supply more critical areas. (Same area is expected to be exempted by Office of Price Administration in its gasoline rationing plans).

Recommendation was issued on May 9 because these counties normally produce enough oil to meet local demands or else receive supplies from the West.

How Line Runs

Roughly, according to OPC, the line of demarcation would run from a point on Lake Ontario just east of Rochester, N. Y., in a southerly direction to the Pennsylvania line just east of Whitesville, N. Y. Then it follows a general southwesterly direction through Pennsylvania, west of Altoona; Maryland, west of Cumberland; West Virginia, east of Elkins; and Virginia to a point on the Virginia-North Carolina border just east of Marion, Va.

Counties recommended for exclusion are:

New York:

Monroe	Wyoming
Orleans	Erie
Niagara	Allegany
Genesee	Cattaraugus
Livingston	Chautauqua

Pennsylvania:

Potter	Lawrence
McKean	Butler
Warren	Armstrong
Erie	Indiana
Crawford	Cambria
Mercer	Somerset
Venango	Westmoreland
Forest	Allegheny
Elk	Beaver
Cameron	Washington
Clearfield	Fayette
Jefferson	Greene
Clarion	

Maryland:

Garrett

West Virginia:

Preston	Harrison
Monongalia	Taylor
Marion	Barbour
Wetzel	Tucker
Marsh	Doddridge
Ohio	Wood
Brooke	Ritchie
Hancock	Wirt
Tyler	Gilmer
Pleasants	Lewis
Upshur	Monroe
Randolph	Summers
Pocahontas	Raleigh
Webster	Boone
Braxton	Lincoln
Calhoun	Cabell
Roane	Wayne
Jackson	Mingo
Mason	Logan
Putnam	Wyoming
Kanawha	Mercer
Clay	McDowell
Nicholas	Fayette
Greenbrier	

Virginia:

Bland	Washington
Tazewell	Russell
Buchanan	Scott
Dickenson	Wise
Smyth	Lee

Gasoline Rationing Area—Maybe

Shaded portion is expected, ultimately, to be exempt from delivery curtailment order (L-70) and from OPA's gasoline rationing. Broken line defines original District 1 boundary. OPC has recommended exemption of 93 counties (shaded area) from curtailment; OPA's Henderson has indicated same counties will be exempt from rationing. But up to a late hour May 12 (day registration began), no order had been issued.

OPA Continues Kerosine Hike In Virgin Islands

Until July 6, sellers may charge an additional 3c per gal. above Office of Price Administration's maximum prices on kerosine in the Virgin Islands, OPA says, explaining that this action is taken pending adjustment of excise tax questions. The 3c covers the tax now imposed on kerosine.

This action was taken in amendment No. 11 to revised price schedule No. 88.

Tire Ration Authority Of OPA Is Broadened

Authority to ration all types of tires—whether made of synthetic, crude, scrap or reclaimed rubber—for all purposes, specifically including industrial equipment, now reposes with Office of Price Administration.

Amendment No. 1 to Supplementary Directive 1-B, issued by War Production Board on May 6 to clear up confusion over OPA's authority to ration tires for such industrial equipment as in-plant trucks, made this clear.

OPA, however, does not have control over tires sold for military use or for export, and WPB retains control over tires for vehicles in the hands of manufacturers, distributors and retailers.

Substitute Tested For Recap 'Rubber'

WASHINGTON — Manufacture of a synthetic substitute, suitable for retreading automobile tires was announced here by Sen. Kilgore, West Virginia, who says that it "is not similar to any known synthetics, although its qualities are similar to crude rubber".

Dr. Glenn L. Castro, Spencer, W. Va., is the inventor, Sen. Kilgore said May 11, adding that satisfactory tests have been made and that 2 Office of Price Administration officials were "enthusiastic" over results. However, an OPA spokesman declined to comment, explaining that he was "bottled-up" on this subject.

A new tire made of this new synthetic material is now on a Washington, D. C. taxicab, Sen. Kilgore says, and its durability is being watched to determine if it is suitable for new tires and if it can be manufactured in large amounts without requiring too much strategic material.

Seek Uniform Standards For Making Camelback

Adoption of uniform standards in making camelback to provide recapped passenger car tires that will last as much as 10,000 miles, mostly in city driving, is sought by Office of Price Administration's Consumer Division which is conducting experiments with the various makes of reclaimed rubber camelback.

Oil Subsidy 'Last Resort', OPA Reports

(*Continued from page* 3)

not decided on the method. However, a subsidy is a "last-ditch" proposition which, he said, "I don't want in the front of my mind or the industry's".

"I have not made up my mind as to how we will adjust for what the increased costs (to the oil companies) are," he added. "I first want to know what they are and what the status of those companies is."

Some of the loss (increased costs) will have to be absorbed, according to Mr. Henderson.

Suggests Alternatives

Among alternatives to "adjusting" price ceilings mentioned by Mr. Henderson, were: Distributing the burden; adjusting at different levels of distribution; setting up a "pool"; handling special costs by treating them separately (such as was done with coal and sugar moving by rail, instead of boat, to New England, he said) so that cost was adjusted and yet "ceilings" were maintained intact. And, lastly, there is the possibility of a subsidy but only as a "last-ditch" resort, he added.

"There," Mr. Henderson said, "is a series of alternatives. And all of those will be explored before we let the 'ceiling' rise, because the purpose of OPA, by direction of this Congress, is to prevent inflation. And inflation at this level comes through price rises."

Congressman Lea, Calif., asked if all these alternatives contemplated reimbursement for loss suffered prior to time adjustment is made.

"Not on a blanket basis," Mr. Henderson replied.

Draft Refinery Control Plan To Fix Yields and Throughput

WASHINGTON — Refinery control program, which will set the operating rate and gasoline yield for each refinery in Districts 1, 2 and 3, is being drafted by industry committees working with Office of Petroleum Coordinator.

District 1—By Directive No. 50 (see full text on page 24), District 1 refining committee is drafting a plan which will maintain required production of war products with a minimum of crude runs in East Coast plants producing such war products. Each month, the OPC refining director (Wright Gary) is to determine rate of production of these war products.

Next, crude supplies available to the East Coast will be allocated—so far as is consistent with supplying the minimum requirements of plants making war products—on a basis of a refinery's percentage of total crude run in last half of 1941.

Plan will call for maximum production of heavy fuels, with a minimum of motor gasoline.

While the refinery allocation plan is being set up, Deputy Coordinator Davies has requested eastern refiners to schedule their operations so as to produce maximum volume of fuel oil. An additional 100,000 bbls. of East Texas crude is to be moved by rail so as to maintain a 400,000-bbl. daily average crude run at East Coast plants.

District 2—District refining committee is to establish a schedule of fuel oil production for each refinery requiring necessary increases in yield of heavy fuel oil with corresponding decreases in motor gasoline.

Mr. Davies has asked midwestern refiners to increase their residual fuel oil production by reducing gasoline output to not more than 80% of yield in last half of 1941.

District 3—Operating rates were assigned by Mr. Davies for refiners, with special consideration for plants making war products. Mr. Davies "requested" 112 refiners in this southwestern district to operate at no more than 70.5% of the average daily crude processing rate for last half of 1941.

"This request," Mr. Davies said, according to telegram received by one refiner, "should not be construed as justifying any curtailment of production rate for 100-octane aviation gasoline and components thereof, toluene especially, authorized toluene-bearing fractions, 90-octane gasoline or special military lubricants."

Some refineries, making war products, were given higher allocations in Mr. Davies' May 2 telegram, but were not disclosed.

RFC to Lend Money to Producers

WASHINGTON — Reconstruction Finance Corp. stands ready to lend money to oil producers who have "good collateral", Jesse Jones, RFC chairman, told NPN on May 12.

"RFC does not usually make loans to oil producers, but these are unusual times and we are now prepared to make such loans, if the producer has good collateral", Mr. Jones added.

Many Texas producers face difficulties in meeting their bank loan payments because of severely curtailed production, brought about by wartime disruption of transportation. The loan is still "good" but their payments out of oil have been slowed down.

Now, RFC apparently stands ready to help them out.

No Legislation Needed

Mr. Jones was asked if legislation would be required, and he replied: "No. All that a producer has to do is go into any RFC office (Houston or Dallas in Texas) and apply for a loan. And if he has 'good collateral', he will get it."

Tank Wagon Prices Set in Some Areas

WASHINGTON — Office of Price Administration has set specific maximum tank wagon gasoline prices for 21 points and tank wagon kerosine at 4 of these points, superseding the provision in Revised Price Schedule 88 that maximum prices at these points should be those prices published in Oct. 8, 1941, issue of National Petroleum News.

"Evidence and affidavits submitted to the Office of Price Administration by the principal marketers in the areas affected," said OPA in announcing the price order (Amendment No. 9 to Schedule 88), "indicated that prices actually charged at those points in the time period indicated were not those quoted in the Oct. 8, 1941, issue of the publication (NPN)."

Specific gasoline tank wagon prices set by OPA are listed in table 1.

Specific kerosine tank wagon prices are listed in table 2, as follows:

TABLE 2
Maximum Kerosine Tank Wagon Prices

Tank Wagon Area:	Cents per Gallon
Cheyenne, Wyo.	9
Roswell, N. Mex.	7
Fort Smith, Ark.	8
Texarkana, Ark.	7

EDITORS NOTE: National Petroleum News publishes each week tank wagon prices as received from marketers in various areas. Corrections in a marketer's tank wagon prices are published if, as and when furnished to NPN by the marketer.

The Fargo, N. Dak. dealer price for "regular" gasoline as published in NPN Oct. 8, 1941, was corrected in NPN, Oct. 22, 1941, Page 44. And this corrected price is the same as the specific price set by OPA in its Amendment No. 9, dated April 27, 1942.

The tank wagon gasoline and kerosine prices for the points in Arkansas, New Mexico, Montana, Oklahoma and Wyoming as published in NPN, Oct. 8, 1941, were corrected in NPN, March 25, 1942, Page 46. And these corrected prices in NPN of March 25 are the same as the specific prices set in OPA's April 27th order.

TABLE 1
Maximum Tank Wagon Prices, Excluding Taxes
(In Cents per Gallon)

Tank Wagon Area	Third Grade		Regular Grade		Premium Grade	
	Dealer	Consumer or Commercial	Dealer	Consumer or Commercial	Dealer	Consumer or Commercial
IOWA						
Des Moines	9.4	10.4	9.9	11.4	11.4	13.4
OHIO						
Geneva	9.5	12	9.5	12	11	14
WISCONSIN						
Lodi	10.1	11.1	10.6	12.1	12.1	14.1
Madison	9.9	10.9	10.4	11.9	11.9	13.9
Mazemanie	9.9	10.9	10.4	11.9	11.9	13.9
Sauk City	10.1	11.1	10.6	12.1	12.1	14.1
Stoughton	9.9	10.9	10.4	11.9	11.9	13.9
Sun Prairie	10.1	11.1	10.6	12.1	12.1	14.1
ARKANSAS						
Fort Smith	6.25	6.25	9	9	....	....
Little Rock	7	7	9.5	9.5	....	....
Texarkana	7.5	7.5	9	9	....	....
NEW MEXICO						
Roswell	9	9	10	10	....	....
NORTH DAKOTA						
Fargo	....	....	11.4	....	....	....
MONTANA						
Billings	11	11	12	12	....	....
Butte	10.5	10.5	11.5	11.5	....	....
Great Falls	11	11	12	12	....	....
Helena	11	11	12	12	....	....
OKLAHOMA						
Muskogee	6.75	6.75	7.75	7.75	....	....
Oklahoma City	7	7	8	8	....	....
Tulsa	7	7	8	8	....	....
WYOMING						
Cheyenne	9	9	10	10	....	....

P.I.W.C. May Propose Bill To Suspend Anti-Trust Law

WASHINGTON — Petroleum Industry War Council at its meeting here May 6 and 7 discussed draft of a proposed bill to suspend the anti-trust laws where co-operative action is found necessary for prosecution of the war.

This was disclosed during testimony of Thurman Arnold, assistant attorney general in charge of anti-trust division, Department of Justice, appearing May 8 before the Gillette committee.

Mr. Arnold was subpoenaed by this special committee of the Senate about an alleged tie-up between alcohol, sugar and oil companies. He declined to give details but said the anti-trust division was investigating now an "undesirable concentration" in the industrial alcohol industry. He said "new evidence" on this was uncovered in the Department's investigation of the Standard Oil Co. (N. J.)

Arnold Questioned

Questioned by Paul E. Hadlick, Gillette committee counsel, Mr. Arnold said he knew nothing about the proposed bill drafted by the P. I. W. C. He expressed surprise that the oil companies were not satisfied with the Van Nuys bill now pending in the Senate.

This measure (S 2431) provides that no act or omission shall be deemed a violation of the anti-trust laws or of the Federal Trade Commission Act, which is certified by the War Production Board to be necessary to the war effort and *IF* the attorney general finds it is necessary for prosecution of the war and that it does not involve an unlawful delegation of discretion to a private group.

Says Bill Is 'Unnecessary'

Mr. Arnold said that the Van Nuys bill was "unnecessary" because such actions would not be a violation of the law anyway. However, he said he had no objection to the Van Nuys bill being enacted.

The bill considered by the P. I. W. C. is understood to drop the "if" clause which puts final say with the attorney general, and simply suspends the anti-trust laws and the FTC act for any action requested or approved by the WPB, the War or Navy secretaries, the Petroleum Co-ordinator or the director of Defense Transportation as an aid to prosecution of the war.

Quizzed on Elkins Case

Mr. Arnold was also questioned by Senator Gillette, Iowa, chairman, about the Elkins Act pipeline cases and the anti-trust suit against the American Petroleum Institute and 22 major companies and their subsidiaries.

The assistant attorney general said that the pipeline case was settled by consent decree because it was so colossal—involving about two billion dollars in penalties—that it "probably could not have been collected anyhow." In that case, 51 pipeline companies agreed to a 7% limit on their earnings.

Washington Directory

NPN's Washington Directory of Oil Agency Headquarters appears this week on p. 34.

While the A. P. I. case was "one of the most important" pending before the anti-trust division, it was continued because even if the government won a dissolution decree, "I would not know how to write it now," said Mr. Arnold.

"We don't know what will be the relationship of the oil companies after the war, nor what Mr. Ickes will order them to do in the meanwhile," said Mr. Arnold.

But the Justice Department has "not the slightest intention of dropping the suit—and if we do, I hope that this committee will call us to account for it," he added.

9 New Pipeline Projects Included in OPC Program

WASHINGTON — The big 1500-mile crude pipeline from East Texas to the New York-Philadelphia refining area is reborn in pipeline program, embracing eight other projects, approved by Office of Petroleum Co-ordinator to supply the East Coast.

Recommendation No. 49, issued May 11 under signature of Deputy Co-ordinator Ralph K. Davies, provides for appointment of a temporary joint pipeline engineering subcommittee by chairmen of general committees for Districts 1, 2 and 3.

The subcommittees will work out plans for these projects, based upon a study by Petroleum Industry War Council:

Projects Planned

1. Increase northern and eastern movement of Texas crude by 25,000 bbls. daily by installing additional pumping units, loop lines and reversal of the Tuscarora Pipeline (a products line now extending west across Pennsylvania).

2. Construction of a products pipeline from Beaumont, Tex., to Baton Rouge, La., capacity 60,000 bbls. daily, to supply the Plantation Pipeline which will have its capacity increased to 90,000 bbls. daily, and be extended from Greensboro, N. C., to the vicinity of Norfolk, Va.

3. Construction of a 15,000 bbls. daily products line from Fostoria, O., to connect the Shell and Sohio gasoline pipelines with the Sun-Susquehanna system at Akron, O., for eastward movement of products.

4. Reversal of the Keystone Atlantic gasoline pipeline and increase in the movement through the Socony-Vacuum pipeline from Buffalo, N. Y., to feed the Sun pipeline going south.

5. Recondition, rearrange and convert crude pipeline or pipelines between Port Arthur, Tex., and El Dorado, Ark., into a products pipeline or pipelines; reverse and extend those lines. Reverse an 8-in., products line between Shreveport, La., and Port Arthur to move products to Shreveport. Construct a 150 mile 10-in. products line from El Dorado, Ark., to Helena, Ark.

6. Construction of a 20-in. crude line from East Texas to Salem, Ill., with capacity of 200,000 bbls. daily, which would require construction of sufficient storage tanks and loading racks at Salem and a barge terminal on the Ohio River.

7. Convert and reverse a 12-in. crude line from East Texas to Houston to deliver 60,000 bbls. daily of products to a point in or near the Etex field. Construct a 12-in. and a 14-in. pipeline from Etex field or vicinity to deliver 75,000 bbls. daily of products to vicinity of Paducah, Ky.

8. Construct a 24-in. crude line from East Texas to Salem, Ill., with a daily capacity of 300,000 bbls., and extend this line east to New York-Philadelphia refineries to deliver 250,000 bbls. daily of crude.

9. Convert the 20-in. line specified in project 6 to a products line and extend it to a point in western Pennsylvania for connection with existing gasoline lines or extension of the line further east.

Pooling Made Possible

Way was cleared for pooling of these facilities when OPC provided that the plans could make provision for:

Joint construction, ownership and operation of the lines. Sale, exchange, loan or pooling of petroleum or products to whatever extent necessary, and wherever necessary, to operate the lines at maximum capacity. Use of pipeline, transport, barge, terminal and storage facilities without regard to individual ownership wherever necessary.

Asserting that relocation of lines would give the East about 140,000 bbls. daily and with rail and barge movements would combine to give between 700,000 and 900,000 bbls. daily—an amount far short of the estimated essential demand of 1,265,000 bbls. — Petroleum Industry War Council said "It is now clearly evident that the 24-in. line (the 1500 mile pipeline from East Texas to New York-Philadelphia via Salem) is the only solution."

Joseph E. Keller Named To ODT Position

Appointment of Joseph E. Keller, Washington, attorney with National Petroleum Assn., as consultant on state barriers for Office of Defense Transportation, was announced May 11 by ODT's Chairman Eastman.

Problems affecting interstate movement of petroleum and other liquids needed in the wartime production drive, will be handled by Mr. Keller, ODT explained.

Mr. Keller, a native of Dayton, Ohio, holds a doctor of laws degree from Georgetown University. Before coming to Washington, he was acting municipal judge of Oakwood, O., and a member of Dayton University faculty. From 1934 until 1938, he was administrative assistant to Federal Communications Commissioner Thad H. Brown.

Forecast 7% Decline In May 'Gas' Demand

WASHINGTON — Total motor fuel demand for May will be 56,700,000 bbls., a drop of 7% below actual demand a year ago, reflecting tire conservation and present curtailment program in the East and Pacific Northwest, Bureau of Mines forecasts.

"This reduction in the anticipated total demand for all oils," Bureau said, "reflects the combined effect of tire rationing on civilian demand for gasoline as well as of the recent orders reducing deliveries of gasoline and fuel oils to distributors in coastal areas which have depended on tanker transport."

The 7% decrease for May, the Bureau added, represents an even greater cut in civilian demand because allowance was made for increases in military and export requirements.

Crude production to meet market demand was expected to drop to 3,729,000 bbls., or 187,000 bbls. daily less than actual demand for same month a year ago.

Sees 'Sharp' Decrease

Demand for all oils during first quarter of 1942 indicates a 10% rise since demand was at a relatively low level for first part of 1941. Although second quarter of this year demand will remain about same as in 1941, succeeding months of 1942 may show sharp decreases, Bureau said.

Bureau reported an increase of 19,000,000 bbls. in crude stocks during Jan.-Feb.-March of 1942, but said this was offset by an equally abnormal decline in total stocks of refined oils, adding:

"With steps under way to readjust refinery yields to meet the shift in the relative demand for gasoline and fuel oil, it is expected that runs to stills will return to more normal levels. The Bureau's current forecast of crude demand of 3,729,000 bbls. daily is substantially above anticipated production because it includes estimates, under present transportation conditions, of crude stock reductions for states of origin where demand is expected to exceed present ability to produce."

Stocks of finished and unfinished gasoline were 108,297,000 bbls. on Feb. 28, with A.P.I. statistics showing a drop in gasoline inventories of about 200,000 bbls. during March, resulting in stock total of approximately 108,000,000 bbls. as of March 31, Bureau said.

This not only represents an increase of 12,000,000 bbls. over April 20, 1941, inventories, with a lower demand anticipated this year, but refining center stocks are much higher, and heavy consuming area stocks are much lower than a year ago. Bureau estimates a decline of 3,900,000 bbls. in finished stocks during May.

Urgent need for industry to readjust product yields was cited, in order to meet increasing need for heavy fuel oil for war industry plants. Gasoline yield of 41% was estimated by Bureau.

Refinery Production

Bureau estimated refinery production by areas as follows:

East Coast, Inland Texas, Texas Gulf Coast, Louisiana Gulf Coast and Inland Arkansas (lumped together)—23,320,000 bbls.; Appalachian—2,180,000 bbls.; Indiana-Illinois—11,400,000 bbls.; Oklahoma — 2,770,000 bbls.; Rocky Mountain —1,540,000 bbls.; and California —7,100,000 bbls.

Lumped together, crude oil for export, fuel use and losses requirements were estimated by Bureau at 4,000,000 bbls.

OPC's George Holland Moved to West Coast

WASHINGTON — George W. Holland, special assistant to Deputy Petroleum Co-ordinator Davies, is now in Los Angeles for an indefinite period, it is learned here.

Mr. Holland is to report directly to Mr. Davies on the West Coast oil situation.

OPCND Becomes OPCW

Office of Petroleum Co-ordinator for National Defense last weekend became Office of Petroleum Co-ordinator for War. The change—called "more appropriate to the situation existing today"—was authorized by President Roosevelt.

OPC's Allen Names Two Assistants

WASHINGTON — George A. Wilson and Elmer E. Batzell have been named special assistants to Assistant Deputy Petroleum Co-ordinator Robert E. Allen.

Mr. Wilson comes to the Office of Petroleum Co-ordinator from Shreveport, La., where he was attorney for Louisiana Standard and Carter Oil Co. Prior to that he was general counsel for the Louisiana Department of Conservation, and before taking this job, lectured on oil and gas in Tulane Law School. He is a graduate of Tulane with a L.L.B.

Mr. Batzell has been with OPC as an attorney since last July. Prior to joining OPC, he worked for Norman Meyers, Washington oil counsel.

P.I.W.C.'s Marketers May Send Substitutes

WASHINGTON—Members of Petroleum Industry War Council's Marketing Committee who are unable to attend a marketing meeting, may designate someone else to represent them, P.I.W.C. explains.

While these acting representatives will not have voting power, they will be permitted to participate in discussions, P.I.W.C. explains.

Car & Tire 'Draft' 'Is not Immediate' Senator Tells AAA

WASHINGTON — Assurance that no immediate confiscation of either automobiles or tires by the federal government is being considered, was given by Sen. Reynolds, North Carolina, to the American Automobile Assn. in week ending May 9.

However, Sen. Reynolds, chairman of the Senate Military Affairs Committee, who recently introduced a bill providing for car confiscation if drivers exceed 40-mile-per-hour speed limit, said:

"Our country is facing a most critical rubber shortage and . . . further action must be had to secure public realization of the situation and a greater degree of conservation of this critical material."

Sen. Downey, California, also has a bill before the Reynolds committee, proposing to give federal government wartime power to commandeer private vehicles if thought necessary.

If and when the federal government should decide to "acquire" private vehicles, it would be done in "an orderly procedure," Sen. Reynolds said, and owners would be duly compensated. He said the word "confiscation" has been over-emphasized.

OPC Forms 'Facility Security' Division

NPN News Bureau

WASHINGTON—A new division—Facility Security Division—of Office of Petroleum Coordinator has been set up, to be headed by W. D. Mason, manager of refining operations for Sun Oil Co. at Marcus Hook, Deputy Co-ordinator Davies announces.

Mr. Mason, OPC said, will (1) direct security work relating to all petroleum facilities, (2) develop plans and procedures to insure protection of all vital oil products, (3) represent OPC in all matters pertaining to facility protection, including co-ordination and approval of plans and programs developed by the Petroleum Industry War Council's committees, and (4) act as liaison agent between OPC, War and Navy Departments, Office of Civilian Defense, F.B.I., and Maritime Commission.

With 38 years' experience in the oil industry, Mr. Mason has been with Sun Oil since 1926, OPC said.

Heads New Division

W. D. Mason

Washington Personalities

Oil Adviser Thornburg: In Umm A Sabaan, A King

Petroleum Adviser to the U. S. State Department is the official title of Max W. Thornburg in Washington, but out on the blue waters of the Persian Gulf he's ruler of a romantic island, *Umm A Sabaan*, whose history dates back to the time of Sinbad the Sailor.

Umm A Sabaan, meaning "mother of sea shells" in Arabic, was given to Oil Man Thornburg by His Highness Shaikh Hamad bin Issa Al Khalifah, ruler of Bahrein. *Umm A Sabaan* flies its own flag and is similar in design to that of the independent principality of Bahrein, except for a figure of a sea shell woven into the pattern. A reproduction of this flag may be seen on the stern of the pearling dhow shown on this page.

A dhow is an Indian coasting vessel, Mr. Thornburg explains, and has been used on the Arabian Gulf for thousands of years. As the name "pearling" implies, Mr. Thornburg's dhow is used for pearl hunting. In fact, just recently, he received a shipment of pearls from his island.

This oil man came to the State Department last fall from the California Texas Petroleum Co. and Bahrein Petroleum Co. He was vice-president in charge of operations for both companies and resigned these positions which he had held since 1936.

Prior to 1936, he'd worked for California Standard, starting in 1920 as a draftsman at this company's Richmond refinery. He was later chief engineer of refining and then refinery manager. For 5 years, he was chairman of the engineering board.

In Washington, Mr. Thornburg keeps the State Department advised on all oil matters, is chairman of the Foreign Petroleum Policy Committee, and a member of the Foreign Petroleum Operating Committee and the Petroleum Supply Committee for Latin America. He is also a special assistant to Under Secretary of State Sumner Welles and a petroleum adviser to the Board of Economic Warfare.

Mr. Thornburg was born Oct. 3, 1892 at Rancho Alamitos, near Long Beach, Calif. He is a graduate of the University of California, has an A.B. and a B.S. in civil engineering and did a year's graduate work at the University of Grenoble, in France. He is married and has two daughters and a son.

In World War I, he entered as a 2nd lieutenant and became a captain, spent three years abroad with the Army of Occupation.

Since World War II broke, Mr. Thornburg has been to London four times. No stranger to this city, Mr. Thornburg is a member of The Atheneum and Royal Thames Yacht Clubs. He is also a member of the Pacific Union and Metropolitan Clubs.

In Mr. Thornburg's high-ceilinged office, he has part of his own large library on Arabic history and folklore. He reads, writes and speaks this ancient romantic and difficult language.

Max W. Thornburg with a model of his pearling dhow and a red silk cloth full of pearls from the waters around his Persian Gulf island. Inset lower right: A sample of Mr. Thornburg's handwriting in Arabic and interpretation in English.

The EDITOR'S Page

Readers comments and opinions will be much appreciated by—WARREN C. PLATT, NPN's Editor and publisher, Penton Building, Cleveland, O.

Beware the Motorist's Ire as his Feet Begin to Hurt

WITH the administration at Washington now rationing gasoline in the East at only 3 gal. per-car-per-week because of alleged transportation shortage; and

With the administration proposing to ration gasoline all over the country in much the same quantities "to save rubber" as well as because of a shortage of oil transportation; and

With the Washington authorities threatening even with seeming enthusiasm to seize cars not "engaged in war pursuits",—

Then those of the administration who may have to do with this taking of the property and rights of American citizens had better trot out far more facts, and each well supported by proof, than have been produced to date.

The administration's case is not proved at the present moment, if what one hears and reads is any criterion. Here are several bits of how the public is thinking, found in newspapers of different territories and different political affiliations, which were among those picked up by the writer in the last few busy days,—

The Sun of New York City, May 9 says in brief,—

". . . the preliminary predictions without authority, the denials of such predictions and the wave of scare stories emanating from Washington have had the natural effect of creating public doubt whether the rationing system put together with such outer signs of confusion will be either intelligent or fair . . . .Anybody who imagines that the relative rights of millions of drivers to get enough gasoline for their lawful occasions can be determined without enormous difficulty simply has no notion of the extent to which the automobile is a part of American life."

The Plain Dealer, Independent Democrat, Cleveland, Ohio, May 10 says,—

"We Still Need Autos

"But one wonders if Washington is giving sufficient thought to the automobile as the fundamental mode of transportation in America and is fully aware of what would happen were every private car suddenly exiled to the garage. . . . The private automobile is a transportation vehicle ALREADY BUILT and IN USE, and in most cases it has tires which, with reasonable care, will last for two or three or even four years. To put that vehicle out of use arbitrarily would be an economic waste which, we believe, we cannot afford. . . . We hope . . . that Washington will attack the problem of rubber conservation with realism. . . . But let us not adopt measures which will do more harm than good merely for the purpose of getting tough."

Arthur Krock, prominent Washington correspondent and columnist for *The New York Times*, May 7, said in part,—

"Being as human as their war administrators and far from convinced that confiscation of their cars is either necessary or wise, members of the American public will probably respond in droves by using automobiles much more freely again. . . . Meanwhile, there is little evidence that the doctrine of frugal use of these stock piles is much respected in the armed forces themselves."

Thomas P. Henry, president of the American Automobile Assn., in a wire of protest to the Senate Military Affairs committee against a law to confiscate cars found exceeding 40 miles per hour said,—

"A federal law couched in terms of confiscation would simply add to the confusion and hysteria that has resulted from injudicious statements and threats that have come from officials in Washington . . . and which has made it difficult for the motorists to understand what government expects of them and which also has reflected on their patriotism and their undoubted willingness to co-operate with the government in the emergency."

In addition to the foregoing, one hears, even among persons who are at least not anti-Roosevelt at the moment, skeptical comment because of past administration statements that hid facts or did not always hew to the line.

Further, it should be kept in mind, that of the 30 million persons who own cars and trucks, undoubtedly a large ma-

Is it a "Shortage" of the Navy?

The torpedoing Monday afternoon in broad daylight within a mile of the Florida coast of an undescribed merchant ship suggests most emphatically the question which has been in the minds of tanker owners and operators for some time:

"Is it a 'shortage' of the Navy?"

As this submarine thus saluted the Florida coast, the Administration ordered the long expected gasoline ration for East Coast car owners to be not more than 3 gal. a week.

American munition plants on the East Coast are threatened with shutdown or at least a slow-down because of possible shortage of fuel oil and difficulty of employes to get to work.

The essential features of the American way of living in this eastern area are also menaced with a "shut down".

American munition plants and American living elsewhere in the U. S. are likewise jeopardized.

These are no longer "military secrets". The "3-gal.-per-week" order discloses them.

The oil industry had plenty of oil, gasoline and tankers and all other means of transportation at the start of the war.

Now its whole war effort is threatened, because the faster we make tankers the faster they are sunk.

Isn't it about time that Congress try and find out just what "protection", IF ANY, has been given by the Navy management to this country's oil life line up its Atlantic Coast?

And who is responsible for that "protection" or the "shortage" of it?

Implying that the 3-gal.-per-car-per-week also means "conserving rubber", when the oil industry is drastically drawing transportation facilities from the rest of the country at a heavy money loss every day, suggests that perhaps effort is being made to divert public attention from something else?

At the same time, there is much talk from Washington about extending this rationing from the East Coast to the rest of the country "to save rubber".

That a real stringent gasoline shortage becomes a rubber conservation campaign, may seem almost too, too co-incidental.

Let Congress find out just what is the basic "shortage".

jority of them are to be found among the 22 and more million who voted against the New Deal at the last national election. The owners of these cars, as they are forced to walk because of lack of gasoline or tires or of cars, are quite likely to insist on more than New Deal unsupported statements, as their weary steps take them to the polls this coming fall or again in the fall of 1944.

There also will be the oil men whose businesses have dwindled because of one of these "shortages", maybe even their businesses have disappeared—and that whether they own as jobbers or work for major companies; and also their employes whose jobs are gone because of one or all of these "shortages". They love this country as much as any of the patriots in Washington, but they also are American citizens who will probably want to know for sure that their sacrifices are absolutely necessary for the successful prosecution of the war and not just an exhibition of "getting tough", as the *Plain Dealer* says.

Then are all car owners going to agree with the administration's official judgment as to who shall get preferential treatment as to tires and gasoline?

At present the definitions are rather flexible. They include those "necessary to the war effort" or some such words. They include, we believe, the business agents of labor unions. Well, who is going to hoof it to work, or to church or to the doctor or to a friend for a game of bridge with a mental picture of a typical "union leader" driving to his "work" of blocking war preparations and getting shorter hours and higher wages regardless for his paying clientele, and not feel like collecting his angry brother citizens and seizing a service station?

It is one thing to cut down on sugar, do without cuffs on our pants, and not buy another electric percolator until the end of the war, but it is entirely different to be hoofing it tiresomely on our "lawful occasions" while "the elect" go speeding by with the aid of gasoline that we are "saving", maybe on our very tires and maybe even in our own automobile lately confiscated by a patriotic administration.

Revolutions and Boston Tea Parties and the early day "vigilantes" and Anti-Horse Thief Associations and the Ku-Kluxers, sprang from injustices, and discriminations real or imagined. What better evidence of "injustice" can one ask than to see one of "the elect" glide by in a comfortable automobile when you, the walker, have no particlular reason to believe that the preferred one is entitled to such luxury at your expense?

And what of the talk of the oil employes who will be put out of work and oil men whose business may be badly shrunk or gone entirely, as they too walk to their work and commiserate with their former customers? Are they going to sit up late nights hunting for excuses and defenses for the perpetrators of their dire predicament?

All this suggests that every oil industry organization that is in any way cooperating with the government in any of these "shortages", every group of oil men and every individual oil man who might be accused of responsibility for any rationing, should be getting all the facts out to the industry and the public as promptly and as frankly and as completely as possible.

Nor should he be deterred by advice of "military secrecy". The enemy knows we are in a pretty kettle of fish as to gasoline and rubber and a few details more or less won't make much difference in their future military operations.

The more our customers' feet hurt the more skeptical and critical they will be.

Oil has enough burdens without having to carry unjust criticism.

What are ALL the facts on Synthetic Rubber?

ANOTHER subject on which the oil industry, and the car owners, need much more information is that of the supply of rubber and particularly the plans and projects for making synthetic rubber.

Are we going ahead rapidly with those plans or aren't we?

David Lawrence, conservative Washington columnist and publisher of the conservative *United States News*, May 8 said,—

> "If the public knew how little had been accomplished in that direction (building plants for synthetic rubber) it would be much more worried than it is today . . .
>
> "It is reported that high officials are gravely concerned about the rubber problem and are depending on American industry to work out the solution.
>
> "The stark fact is that relatively little progress has been made on the actual construction. . . . Informed sources say that the program has bogged down due to disputes as between processes."

This and more is from a national writer who has shown more friendly understanding of the oil industry than most any dozen others. He has been critical of the florid accusations made against oil companies by high New Dealers and but the other week he took apart as specious the charges of the Department of Justice on the patent situation governing this very rubber question.

We, too, have an understanding of some of the difficulties in developing and carrying out this rubber program. We know that progress has been made; that able men are working day and night to accomplish a great objective. But we, too, like David Lawrence, are a bit at sea in trying to add it all up and be able clearly to say just where the oil industry is at the moment.

When the car owners are put on short rations and their cars confiscated in the name of a "rubber shortage" they will raise a roar much as Mr. Lawrence fears. They will demand to know all the facts and if they are not forthcoming, the oil industry and the government officials who have to do with oil and this rubber problem, will again find themselves before a Congressional committee and called upon to answer more unfriendly questions as to their stewardship of patents, processes, manufacturing skill, plans and money for investment in rubber plants.

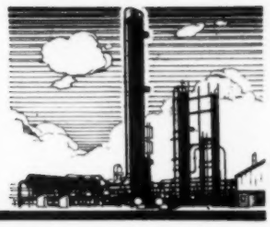
The public has been led to believe, and correctly, that the oil industry has an excellent answer to its rubber problem, an answer the extent and sufficiency of which depends solely upon the amount of steel and other metals and the speed of delivery that the administration at Washington will give the oil industry for butadiene plants. If the public believes, as it walks the streets, that it has been let down by anyone, its ire and vengeance will be greater than any yet shown to government or industry.

The oil industry, yes the individual oil men, involved in this question, either in groups or even singly, owe it to themselves and their customers to make complete disclosure of all the facts, if government should not care to do so.

This war is going to be won not by hiding out on the enemy a stray industrial fact or two (which he probably has anyway), but by getting the people of this country to work in full harmony and to discover and overcome promptly all inefficiencies of government and industry operations.

This is the peoples' war, not Washington's war or the New Deal's war. The people are fighting it and public opinion will, in the last analysis, manage it. The sooner the people get all the facts on this rubber situation the better for all concerned.

REFINING NEWS



Alcohol-Rubber Gets Support Of 'Big Names' in Farm Bloc

WASHINGTON — Standard Oil Co. (N. J.) has offered to the government, royalty free for the duration of the war, its processes and "know how" for making butadiene from alcohol through the aldehyde-aldol-butylene glycol route, in a letter by W. S. Farish, president, to Agriculture Secretary Wickard.

NPN News Bureau

WASHINGTON—Support for the alcohol-rubber program, already backed by several "big-name" members of the farm bloc in Congress, seems destined to grow like a snowball rolling downhill in this election year.

With its promise of help for the farmers and tires for 30,000,000 motorists, it is a "natural"—especially when every congressman and a third of the senators face re-election.

So far, no one has come forward to challenge claims that alcohol-rubber as compared with petroleum-rubber can be produced in one-third the time and requires only half as much critical materials. "Alky-rubber" advocates are capitalizing on reports that the petroleum-rubber project is "still on the drafting boards," with little chance of being completed by end of 1943.

Wickard Backs Program

Secretary of Agriculture Wickard came out strongly for the alcohol-rubber program on May 8, appearing before the special Senate committee, headed by Sen. Gillette, Iowa, which is investigating industrial uses of farm products—especially synthetic rubber from agricultural alcohol.

Other Officials Interested

Other high-ranking government officials are interested in the "alky-rubber" program, according to Cy Neuman, Philadelphia, president of Publicker Commercial Alcohol Co., one of the largest industrial alcohol manufacturers in the country. Mr. Neuman testified May 7 and told the committee about the "run-around" he said he got at the Rubber Reserve Corp. (RFC subsidiary) when he sought to have his company included in the synthetic rubber program.

Process Was Explained

"Our process (butadiene from alcohol) was explained to them," Mr. Neuman added, "and they were all very much interested and enthusiastic."

Later, he said WPB Chairman Nelson had said that if the alcohol-rubber process were workable, then the synthetic rubber program should be 50% petroleum-rubber and 50% alcohol-rubber. Publicker was told to consult with RFC rubber officials, Dr. E. R. Weidlein and Stanley Crossland.

Dr. Weidlein, according to Mr. Neuman's testimony, told the Publicker officials that the alcohol-butadiene Buna S rubber was "a good one and workable," also that it required less critical materials than the petroleum-rubber process.

Wickard Testifies

Mr. Neuman said that he was also informed that the RFC had raised its synthetic rubber program to 800,000 tons annual capacity and that all of it had already been allocated. However, Dr. Weidlein said that the objective might be enlarged to 1,200,000 tons, Mr. Neuman added.

Secretary Wickard told the committee May 8 that the Agriculture Department had talked with Rubber Reserve Corp. officials "several days ago" about the alcohol-butadiene process, after the Department had "recently found" that such a process was available to the RFC subsidiary.

Prior to that, the Department at its Peoria, Ill., laboratory had been experimenting with a butadiene glycol process, Mr. Wickard said. He told the committee that he had urged the RFC agency to make provision in its synthetic rubber program for utilizing butadiene made from grain alcohol.

Existing plants could make 200,000,000 gal. of alcohol for butadiene, after allowing for war requirements of alcohol, the Secretary of Agriculture testified. This would be enough for 220,000 tons of butadiene from which could be made 240,000 tons of synthetic rubber, he added. And this would consume 80,000,000 bushels of wheat or corn which, in view of a July 1 carryover of 630,000,000 bushels of wheat is important, he said. Storage facilities are nearly filled with last year's crop, transportation is "tight" and farmers cannot get lumber to build bins on their farms.

Mr. Wickard urged that at least 80,000,000 bushels of grain be used for alcohol-rubber which, he added, "will prove quicker and more efficient" than other methods.

Subsidy After the War?

Advocates of the "alky-rubber" program, for the most part, have not touched upon the relative cost of making butadiene from alcohol as compared with petroleum. Neither Secretary Wickard nor Mr. Neuman touched on this angle at the May 7 and 8 hearing. Apparently, they feel that time is the essential factor now in the synthetic rubber program and they rely on claims that the alcohol-rubber process would take less time than the petroleum method.

However, Mr. Neuman did suggest that after the war, if Congress saw fit to subsidize grain for the alcohol plants using the farm product such plants might be able to compete with synthetic alcohol plants.

Testimony in executive sessions of the Gillette committee is reported to have contained estimates of alcohol costs ranging downward from 45c to 20 or 25c per gal., with one estimate as low as 12c. It has been calculated that with 12c alcohol the "alky-rubber" process would be competitive on a cost basis with butadiene from petroleum.

Critical Materials Discussed

In the matter of critical materials, Paul E. Hadlick, counsel for the Gillette committee, presented these requirements for each 1000 tons of butadiene: Copper, for alcohol process, 50.6 tons, and for petroleum process, 9 tons; Nickel, for alcohol, 1 ton and for petroleum, 2.05 tons; Chrome, for alcohol, 2.2 tons, and for petroleum, 5 tons; Plate Steel, for alcohol, 140 tons and for petroleum, 165 to 194 tons.

He said that Leon Henderson had said the big difference in critical material requirements of the 2 processes was in heavy compressors needed. The petroleum process requires 312 to 409 hp. compressors for each 1000-ton butadiene plant as compared with 180 hp. for alcohol. And compressors are a mighty scarce item, Mr. Henderson is said to have added.

May Raise Rubber Goal To 1,200,000 Tons

NPN News Bureau

WASHINGTON — Rubber Reserve Corp. (RFC subsidiary) may expand its synthetic rubber program from 800,000 tons capacity annually to a million or even 1,200,000 tons, according to testimony before Gillette committee.

Cy Neuman, Philadelphia, president of Publicker Commercial Alcohol Co., testified May 7 that Dr. E. R. Weidlein, RFC rubber expert, had said that the program might be enlarged to 1,200,000 tons.

Included in the 800,000-ton program, for which commitments have already been made, according to Mr. Neuman, is an 80,000-ton project for making butadiene from alcohol. This was allocated to Carbide and Chemical Co. Another project, he said, is a 40,000-ton butadiene plant by Koppers Coke which will use benzol as a base.

Aviation 'Gas' Toluene Plants Planned by Continental

Special to NPN

PONCA CITY, Okla. — Continental Oil Co., acting as agent for Defense Plants Corp., a subsidiary of Reconstruction Finance Corp., will contract with private firms on construction of two large war plants, according to a company official. The two plants will manufacture aviation gasoline and toluene. Construction is expected to begin shortly.

Continental will lease the plants to the government and operate them under government supervision, the official said.

Newhall Asks Use Of All Processes To Supply Rubber

NPN News Bureau

WASHINGTON—Possibilities of increasing production of butadiene from grain alcohol should be given careful consideration in RFC's synthetic rubber program, Rubber Co-ordinator Arthur B. Newhall told special Senate agricultural subcommittee today.

Mr. Newhall read this subcommittee a memorandum, written May 11, to War Production Board chairman, in which the Rubber Co-ordinator included a letter he'd written to RFC. This letter, in part, follows:

"I think there are many reasons why we may find that such a program (greater production of butadiene from grain alcohol) can be brought in faster and with less material than some of the presently planned programs. I am not suggesting stopping any of the present work or any part of the present negotiated contracts, but I think . . . an emergency supply of butadiene would be very desirable to be brought in quickly.

Suggests 'Quickest' Method

"You may find that the quickest, easiest method of getting this emergency supply would be to substantially increase the present Union Carbide & Carbon Co. program and after full investigation possibly the addition to the program of a plant as suggested by Dr. Marks (Publicker)."

Previously, Gillette committee had been told that Carbide would use only synthetic alcohol in its alcohol-butadiene process.

Mr. Newhall said Publicker Commercial Alcohol Co. has conferred with Carbide seeking information on their process.

"I am informed," Mr. Newhall continued, "that the Publicker Co. now says that they would like to present a proposition to build a butadiene plant using alcohol, but they are asking that they be given the information and engineering plans of the Union Carbide & Carbon Co. program rather than go through the engineering and experimentation necessary to enable them to submit a proposal using the much publicized process of the Polish inventor. I am further informed, however, that they have not yet submitted an actual proposal to the RFC on either process."

Asked about status of RFC's synthetic rubber program, Mr. Newhall said, "it will be a miracle" if 350,000 tons of synthetic rubber are produced by end of 1943. Status of synthetic rubber capacity production capacity by end of 1943 depends upon how much steel can be allocated for plant construction, he said, adding "problem is how to divide materials".

Reading a press release from Office of Emergency Management on status of overall rubber supplies, Committee Counsel Paul E. Hadlick said "it sounds like a bunch of tripe put out to scare the people unnecessarily."

Secretary of Commerce Jesse Jones is scheduled to appear before this committee May 19. Others scheduled to appear, with no dates set are: Lewis S. Rosenstiel, board chairman of Schenley Distributors; Benjamin O'Shea, president of Union Carbide and Office of Defense Transportation Director Joseph B. Eastman.

OPA Allows Dutch to Hike Paraffin Wax Price

WASHINGTON — Permission to sell 60,000 lbs. of paraffin wax (AMP 124.3F) at 8c per lb., f.o.b. in bags to industrial consumers for consumption only and not for resale, was granted the Netherlands Shipping and Trading Committee of New York, an agent of the Royal Netherlands government, by Office of Price Administration.

This is a higher price than OPA's ceiling on this product, and was approved due to German occupation of Holland, resulting in inability to deliver and thus additional storage and insurance costs. Payment for this wax to Boler Products Co. was made before May, 1940, at 7.021c per lb.

OPA granted this exception in amendment No. 1 to revised price schedule No. 42.

Complying with OPC Refinery Quota Would Cut Arkansas' Crude Output

Special to NPN

EL DORADO — A reduction of 17% in the production of crude oil and condensate in Arkansas would be necessary to prevent addition to aboveground stocks if Office of Petroleum Co-ordinator's recommendation of refinery runs is adhered to, according to statement of state's oil and gas commission.

Along with other refineries, those of Arkansas were requested by OPC to reduce crude runs to stills during May to 70.5% of daily average for last 6 months of 1941.

"The average daily run during that period, according to sworn reports in the office of the Oil and Gas Commission, was 36,837 bbls."

"The percentage reduction recommended. . .would leave a new allowed run of 25,970 bbls."

Statement continues:

"During the month of March the refineries ran 38,005 bbls. to stills as a daily average. To reduce that figure to 25,970 bbls., the federal rate, would be to reduce refinery runs by 31.7%.

"Just where a reduction of 12,035 bbls. daily can be made in production is not known, although Arkansas' conservation law prohibits the unnecessary storing of oil aboveground. Approximately 8 million bbls. of empty storage space is now available in the state, having been emptied over the past few years as a conservation measure.

"Crude oil and condensate production for the month of May, as fixed by the Oil and Gas Commission in an order dated April 27th, is 70,748 bbls. daily. To follow through the reduction recommended at the refineries of 12,035 bbls. would leave only 58,713 bbls. daily, a minimum figure for a good many years."

Refinery Operations

(American Petroleum Institute figures in barrels of 42 gallons. Figures are U. S. totals and are on a Bureau of Mines basis. Breakdown by districts will be published in May 20 NPN.)

	Week Ended May 9, '42	Week Ended May 2, '42	Week Ended May 10, '41
Crude runs to stills (Da. avg.)	3,406,000	3,441,000	3,876,000
Gasoline production at refineries including natural blended	10,658,000	10,371,000	12,780,000
Finished & unfinished gasoline stocks	100,650,000	101,376,000	95,150,000
Gas oil & distillate stocks	29,947,000	29,638,000	33,284,000
Residual fuel oil stocks	80,155,000	79,939,000	92,156,000

Naphthalene Placed Under WPB Control

NPN News Bureau

WASHINGTON — Conservation Order M-105 places naphthalene of all kinds under strict allocation control beginning June 1.

The order, issued May 6, provides that no deliveries may be made after June 1 without specific authorization of War Production Board, with the exception of:

1. Deliveries solely for refining purposes.

2. Deliveries to persons who will refine the naphthalene without consuming all of the amount delivered in further processing or manufacturing into another product.

3. Deliveries up to 250 lbs. to any one person in any one month, provided that the receiver does not receive during the month, from all sources, more than this amount, and that the aggregate of all deliveries by a producer or distributor under this exemption does not exceed 2% of his production.

4. Deliveries of oils containing less than 25% naphthalene, but not if such oils are to be used for concentration of the naphthalene content to more than 25%.

The order also placed these restrictions on refining naphthalene:

"(1) Unless otherwise authorized or directed by the Director of Industry Operations, no producer shall refine crude grade naphthalene to refined grade napthalene except:

"(i) to fill orders requiring refined grade naphthalene which he has been specifically authorized pursuant to subparagraph (b) (2) (i) hereof to fill and/or

"(ii) to have in addition a practicable minimum working inventory thereof.

"(2) No producer shall during any calendar month, refine any naphthalene unless and until provision has been made by such producer for all deliveries of naphthalene (of the grade or grades specified) required to be made by the Director of Industry Operations during such month."

Subparagraph (b) (2) (i) referred to above is the clause declaring that orders are to be authorized by WPB.

Crude grades naphthalene was defined as that having a "melting point of less than 79° C., while refined grade is naphthalene with a melting of 79° C. or more.

Progeny for WAR

New oil-chemistry products, created by remating the molecules of petroleum, are giving us better weapons, and better living

By W. C. Platt

Under construction—a Shell Oil Co. toluene plant

LOS ANGELES—This is the far end of a transcontinental trip to show a group of science and business writers for popular magazines and newspaper syndicates an entirely new development of the oil industry—a development that is flowering in the nick of time for the better prosecution of this war and a development that promises many new materials for that still better civilization for which we are fighting.

While we walked miles through refineries, where our well-known lube oils and fuel oils and gasolines are made, we heard little about these highly necessary products.

Oil's Miracles Unfold

Rather, the exploration and talk were centered on the many and lesser known forms of the petroleum hydrocarbon molecules which today are being made into plastics to displace wood and metals, into explosives for the war, into life-giving fertilizer for more food supply per acre; a new form which gives an extra "zing" to aviation gasoline; another which keeps rust from forming in high speed navy turbines; molecules of various kinds which now and in the future will do a multitude of other valuable things for war and mankind.

Saw Rubber Made

But of special importance to every American and oil man today, we saw the manipulation of the molecules from crude oil into tough, usable rubber, good enough for our tires.

Yes, we saw "synthetic" rubber made right before our eyes—from the isolation of the molecules in a gas that came from petroleum, to putting those molecules together in a white paste, to squeezing that paste, to mixing it with carbon black—another set of petroleum molecules—and to vulcanizing it into good black rubber from which the "Ph. D." research expert cut us round mats to take home for use under the friendly glass whose contents can mar living room tables.

But this trip was not a press agent stunt to herald the oil industry's contribution to our rubber supply. The demonstration of forming rubber from a gas made from petroleum was only a more spectacular illustration of the new trend in oil industry development. We put those rubber mats in our pockets to show family and friends, but we couldn't do the same with all the other molecular forms shown us, as illustrating oil industry progress into the world of general chemicals.

It's All in Molecules

Nor was this trip to exploit any industry patents under which all these molecules are herded around for the public good. Even though much had been testified at Washington the week before about oil industry rubber patents, we heard little of them. All that the science writers listened to from these oil industry research and operating men was how to chivvy the hydrocarbon molecules about so that they formed into the proper groups for doing new and unheard of and more efficient jobs for the people of this country.

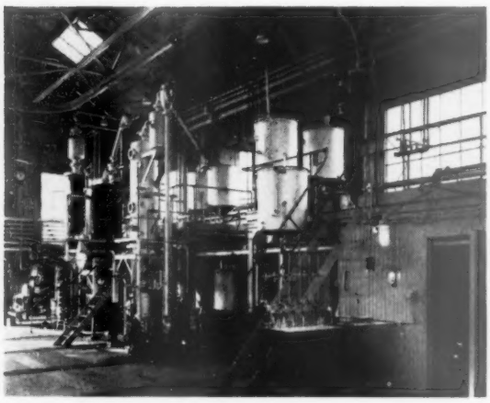
One "Ph. D." did tell about meetings with other "Ph. D.'s" to exchange freely scientific data developed by those working in the realm of oil cracking under all the cracking patents pooled in what is known as the "Cracking Refinery Agreement." That "Ph. D." told how this development in oil is progressing steadily by reason of the free exchange of information.

Squinted into Tubes

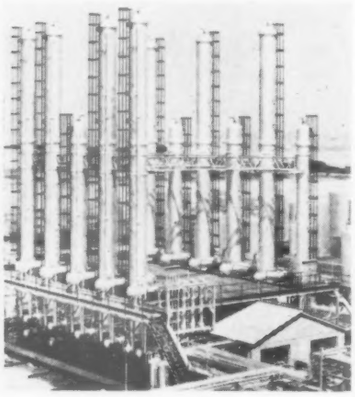
The rest of the time the popular writers of science squinted into short and long and straight and curling glass tubes and up to the roof and into the California sky at high columns of pipe and tanks wherein molecules by the gallon and by the thousands of barrels were doing man's bidding in remating themselves, and producing new and more useful progeny.

We were all wandering, like children, into a new world that seemed like make-believe; a world that offered visions of more happiness and greater comfort at every turn of the scientific road; a world where we were not troubled by lawyers and investigators and limitations on our minds. This trip, if one may be pardoned a love

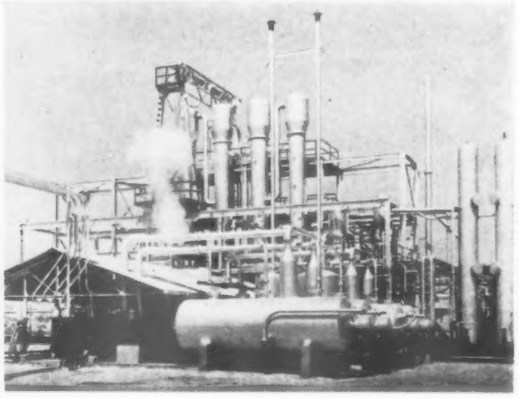
Made from Petroleum by the Oil Industry



Synthetic glycerine—from oil



Alcohol—from petroleum gases



Ketone—for war materials

(All photographs are of Shell Oil Co. installations)

for fairy tales, just set us to imagining what all of further inexpensive comforts may lie before us, just as we did when kids not yet in our 'teens.

The writer must get on with the "news" of this story, but if he may be pardoned one more observation of this "Alice in Wonderland" variety, it is that the reader may get the same sense of having been on a vacation, of getting away from a lot of this war and business strife, if, when opportunity offers, he too will read in his oil company house organ, or in "NPN" or in general magazines, what this oil industry is going to do with its hydrocarbon molecules to make better living.

Organized for Education

This trip was organized by the Shell Oil Co., not, however, as was explained to the guests, to get "pieces in the papers" about Shell, but to give first-hand information to the science writers so that they can write more constructively and more accurately for the public about the oil industry's future growth.

The oil industry, and Shell, for instance, today direly need more technical men and even women, and they will need still more thinking men and women to carry on this progress into general chemistry in the years to come.

More Technicians Needed

Hence the more accurately and constructively the scientific writers tell their stories of the oil industry, the more inquiring, inventing, constructing minds will be invited to join the industry thinkers. The oil industry has been enlisting new technical minds by the hundreds every year, but the prospect for the future is that the industry will need additional minds by the thousand. And only by the enlistment of such minds in large numbers from the young people of the country generally can the industry and the oil companies and Shell Oil hope to expand and give that which management and capital must give to the ultimate consumer to warrant the continued existence of all.

Then, also, the more accurately the public knows what the oil industry is doing, the more fairly it can judge of the industry and deal with its political problems as they arise for public consideration.

We have heard too much of late years about restriction of science and technical development, the while the theorists of new forms of government, of socialism and even of communism, exalted their stifling of human rights.

Bring Scientists Forward

The scientists and the technical men who make for better and healthier living have been pushed to one side too long, while those who seek power over their fellow man, lauded their own theories and sought by hook and by crook to promulgate them as laws—laws by which these theorists would control the every act of the scientists and technical men and their products as well—laws through which these theorists would say as to the every day comforts and labor saving of the people.

This education of the general public as to what the scientists and technical men are providing for it cannot be done by one oil company nor by all oil companies. It can best be done by companies in all industries, assisted by the great work which universities contribute as the foundation of such knowledge.

Oil Has Scientific Story

All of the larger oil companies have a story to tell of their scientific efforts, not only in the ordinary realms of useful petroleum products but out into the newer fields of new products and new uses. All of the larger oil companies are carrying on much research for these new products and new uses for petroleum hydrocarbons. The cost runs many times into the millions each year. But unfortunately, it is a story of which comparatively little has been said, either to the industry or to the public. There is no reason for secrecy. It probably is just a case of the companies not having got at the job.

The story of such oil company technical development should be told first to all company employes, then to all

(Continued on page 17)

Oil Research Yields Products Like These

Carbon—for steel, rubber goods

Anhydrous ammonia—for refrigeration

Ammonium sulfate—for fertilizer

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

Design Plants for a Three-Year Life

To Save Alloy Steels, Refiners Told

● Build a plant to last three years—and spare the use of the critical chromium and nickel alloy steels wherever possible.

This is the order of the day from Washington to refiners, as well as to builders and owners of other kinds of war products plants using critical materials in their construction. An expression of the urgency of the need for saving high strength steels has been brought to the public notice of the steel industry, but it has not yet been brought to the attention of the petroleum refiners. Apparently the War Production Board and the Office of Petroleum Co-ordinator in some way, between them, fumbled the ball as to who was to make the announcement.

Refining ranks fourth, it is said, among all industries in the use of the high strength steels in plant construction and maintenance.

Representatives of the large refining companies, at a meeting a few weeks ago with representatives of WPB, were asked to consider certain proposed limitations on the chromium and nickel content of the steels they specified for new units or for replacements at existing plants.

For furnace castings and tube supports, it is understood, the refinery men agreed with the representatives of other industries and of the steel industry that limitations could be placed upon the chromium and nickel content, based on temperatures to be met.

For cracking coil tubes, towers and other points where high temperatures have to be withstood, the refinery men took the point of view that it was impractical to set these limitations. They pointed out that corrosion conditions vary greatly in the individual plant, with the crude handled, the processes used, and the temperature and pressure ranges. They said an alloy steel that would have a normal life at one plant might not stand up in similar service in another plant. In some catalytic processes it was also shown that vessel linings of special steels are necessary to prevent the catalyst being affected.

In place of temperature limitations, the refinery representatives suggested to the WPB, it is understood, that the content of chromium and nickel specified in the alloy steel to be used in building plants be held to the minimum that would insure a 3-year life for the equipment without appreciably increasing the anticipated downtime. It was also suggested this same principle be followed in specifying replacements for existing equipment where this could be done without incurring delays. As contrasted with this, the practice of refiners in the past has been to specify alloy steels that would stand up for 7, 10 and even 20 years of service.

This suggestion from the refinery representatives that new units be built for a 3-year life is understood to have the approval of the WPB, through statements made to the iron and steel people, but as far as is known it has not officially been brought to the attention of refiners generally.

The shortage in these two alloy metals particularly is the reason for the move. It emphasizes the fact that the oil companies are called on to build war plants in every sense of the word, to build them as quickly as possible to make principally aviation gasoline, and to be as sparing as possible in their use of the critical metals in design and construction.

If these plants last 3 years and turn out the desired volumes of products, it is presumed they will be considered by the government to have served their purpose and their cost written off. Certainly the refiner who builds under these conditions and has any plans for continuing to operate the plant after that time should recognize that replacement and maintenance costs will likely be at a far higher rate than have been encountered in his past experience.

On furnace castings and furnace parts such as tube supports, the program adopted at the conference between the WPB and refining and other industry representatives, according to the information given the steel people, called for the following limitations of chromium and nickel content in the steels specified, based on temperatures to be met:

Up to 850° F.: non-alloy for both integral and non-integral parts.

From 850° to 1200° F.: not over 6% chromium for integral parts, non-alloy for non-integral.

From 1200° to 1400° F.: up to 25% chromium and 12% nickel for integral parts, 6% chromium for non-integral.

From 1400° to 1900° F.: CR 25%-NI 12% for both integral and non-integral parts.

Over 1900° F.: NI 35%-CR 15% for both integral and non-integral.

The need for saving in the high strength alloy steels used in building refining units is not entirely a new subject to the oil companies. Max B. Miller, chief of the equipment procurement section of the refining division of the Office of Petroleum Co-ordinator, in March suggested to designing engineers methods for saving in the use of steel and other critical materials (*See NPN March* 25, *p.* 17).

Director Wright Gary of OPC's Refining division has emphasized this point in his public talks before refiners' associations. Refinery engineering companies have been specifying steels with lower chromium and nickel content in their designs for new units and also advising the use of heavier carbon steels, even where replacements may have to be made within two years. They point out that

the important thing is to get the plants up and producing and that, by the time replacements are needed, the general metal shortage may have eased and refiners can again specify the more desirable steels.

Refiners in the field who take the present critical situation in alloy steels into consideration in planning new units and who design to use the minimum practicable amounts of chromium and nickel steels, will expedite the approval of their plans by the authorities in Washington, it is pointed out.

New Lubricating Oil Extraction Solvent Reported to A.I.C.E.

725.3
753.2

EXPERIMENTAL research in the use of the organic compound dimethylformamide as a solvent on Pennsylvania lubricating oil stocks was reported at the semi-annual meeting of the American Institute of Chemical Engineers in Boston May 11-13. In the limited investigation made this solvent was found to be capable of improving viscosity index and carbon residue without too serious a loss in yield of product.

Extractions were made by batch (single and multiple) and by continuous tower operation and it was concluded that the requirements of the property of selectivity were met by the solvent and likewise its volatility and stability were satisfactory.

The solvent is too new to make predictions concerning its availability and cost, it was stated in this paper, and it was said that its low specific gravity of 0.953 might produce problems in speed of separation of raffinate and extract layers in a commercial application. However, this difficulty was believed to be surmountable. The paper presented by Henry T. Ward, Drexel Institute of Technology, Philadelphia, was entitled "Solvent Extraction of Pennsylvania Lubricating Oils with Dimethylformamide".

Solubility Studies on Lubes Discussed

Also of interest to refiners of lubricating oils by solvent methods was a paper on solubility studies which employed liquefied, normally gaseous solvents at temperatures in the neighborhood of their critical temperatures. The abstract of this paper, entitled "Liquid-Liquid Extraction Employing Sovents in the Region of their Critical Temperatures" stated: "At these critical temperatures, certain long chain fatty acids, their glyceryl esters and other related substances were found to exhibit limited mutual solubilities with these solvents, especially the hydrocarbons of low molecular weight.

"Data have also been obtained with respect to ternary systems comprising a long chain of fatty acid, an oil composed of glyceryl esters and a solvent. By means of the equilibrium data for such ternary systems, it is demonstrated that they form the basis of a new liquid-liquid extraction process for the refining of long chain fatty acids. The precision of the data for one such system, oleic acid-refined cottonseed oil-liquid propane allows their use as a guide in determining performance characteristics of liquid propane solvent extraction equipment as employed by the refiners of lubricating oil.

"The method used and the results obtained in the course of this study indicate that this class of solvents will be used in the solution of many other problems involving the separation or refining of complex mixtures of natural products," it was stated. Authors of this paper are A. W. Hixson, Columbia University, and J. B. Bockelmann, Colgate-Palmolive-Peet Co., Jersey City, N. J.

Experimental data on crude naphtha stabilizer performance obtained from 6 test runs were reported and evaluated in a paper by J. Q. McGiffin of Latonia Refining Corp., Latonia, Ky., subsidiary of Standard Oil Co. of Ohio. The stabilizer dimensions were 42 in. inside diameter, by 61 ft., with 30 trays. Tower performance was reported, exchanger performance and Podbielniak analyses and laboratory inspections.

The tower was operated just below flooding conditions during the test periods, to make as close a cut as possible between iso and normal pentane, and normal butane and iso-pentane, from a feedstock consisting of raw straight-run crude naphtha. Results obtained, the paper brought out, indicate that tower performance suffers when so-called critical vapor velocities and safe downcomer velocities are reached. Safe downcomer velocities are shown to be as high as 1.5 ft. per second in some cases. At high velocities the heat transfer coefficients of the exchanger equipment were increased. Title of this paper was "Crude Naphtha Stabilizer Performance."

Among the other papers presented by authors outside the petroleum industry for the most part, some reported experimental studies on various aspects of absorber tower performance. While this data in most cases did not apply to hydrocarbon fluids and gases directly, much of it was fundamental and discussed principles applicable to design of towers used in natural gasoline plants and refineries. One section of a paper on "Performance of Drip-Point Grid Tower Packings", described measurements of pressure drop, loading and flooding on three types of drip-point ceramic grid packing, in continuous-flue and cross-flue arrangement. It was suggested that the loading point is more significant than the flooding point as a guide in the design of towers using this packing. This is because the pressure drops in normal operation are low as compared with those at flooding point. Authors of this paper were M. C. Molstad, University of Pennsylvania; R. C. Abbey, General Refractories Co., and A. R. Thompson and J. F. McKinney, of the University of Pennsylvania.

Among papers on the subject of heat transfer, that entitled, "Heat Transfer and Pressure Drop for a Fluid Flowing in the Viscous Region through a Vertical Pipe", presented new data on heat transfer and pressure drop for an oil and for water moving in streamline flow up a steam-heated vertical pipe. C. J. Southwell, San Francisco, Standard Oil Co. of Calif., was one of the authors of this paper.

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Tests Show Effect on Steels in Cracking Coil Tubes of Changes in Chromium Content

By C. L. Clark*

Petroleum refiners, in changing to steels of lower chromium and nickel content in their specifications for new units operating at high temperatures, as is proposed by the War Production Board, will find it necessary to take into account the effect of this decrease on performance of the steels in service, to avoid increased maintenance cost.

Data on the effect of varying the chromium content on the corrosion resistance of alloy steels in cracking units, and on their high temperature strength, is given in the accompanying article. It is taken from a report on high temperature investigations on cracking coil tubes made in 1940-41 by the Steel and Tube Division of Timken Roller Bearing Co. Tubes were studied after service in 3 different refineries. While these studies are on steels of higher chromium content than it is now proposed by the WPB that refiners specify, the data given shows the general effect of reducing the chromium content.

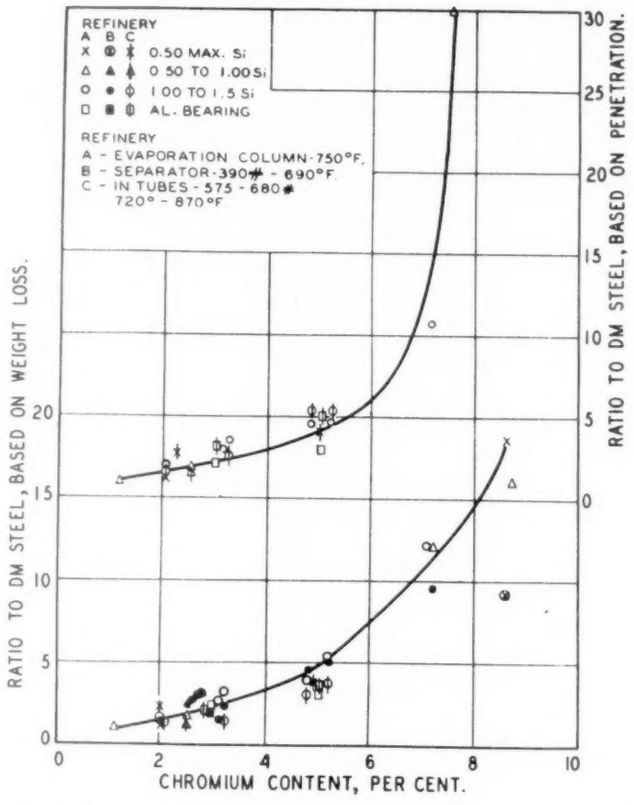

Fig. 1—Comparative corrosion results from 3 refineries, expressed in terms of their ratio to DM steel

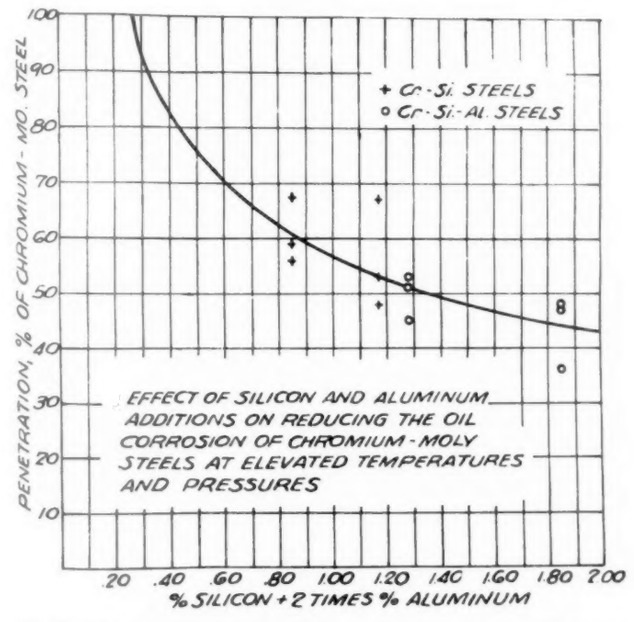

Fig. 2—Effect of increased silicon content and the addition of aluminum in improving corrosion resistance

Influence of Alloy Additions On Corrosion Resistance

● While it is possible, on the basis of laboratory tests, to evaluate many of the necessary characteristics of steels for high temperature service, the corrosion resistance in hot petroleum products can only be ascertained in actual commercial installations, either by strip specimen or by periodic inspection of the tubes themselves.

It is generally recognized that the corrosion resistance in hot petroleum products increases with the chromium content but only recently has work been done to shed additional light on this exact relationship, especially for chromium contents in excess of 5.0%. The corrosive conditions vary considerably in the different refineries and consequently agreement is not to be expected in the actual weight losses obtained. If, however, the results are expressed in terms of their ratio to a given steel, then good agreement may be obtained as shown in Fig. 1.

This figure gives the results obtained on A.P.I. strip corrosion specimens in three different refineries. The corrosive conditions were entirely different and yet, when the results are expressed as a ratio to DM,† the lowest alloy steel common to the three refineries, a rather definite relationship exists between chromium content and corrosion resistance. These results indicate chromium content to be the controlling factor insofar as corrosion resistance is concerned, although silicon and aluminum do have a beneficial influence in certain cases.

On the basis of the results of Fig. 1, an increase in the chromium content from 2.0 to 4.0% doubles the corrosion resistance. Likewise, a 7.0% chromium steel is about twice as resistant as a 5.0% chromium steel and a 9.0% steel is twice as resistant as a 7.0% steel. The beneficial effect of increased chromium content is thus evident.

That increased silicon content, as well as the addition of aluminum, is beneficial in improving the corrosion resistance, especially of lower alloyed steel, is apparent from Fig. 2. These results show that, when the silicon content plus twice the aluminum content is equal to 2.0%, the corrosion is only half of that of a normal silicon steel with the same chromium content. These results were again obtained from API strip specimens, on steels containing about 1.5% chromium.

The data of Fig. 3 were obtained from actual crack-

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†Timken Steel & Tube Div. trade-name steel of following characteristics: Carbon .15 max., manganese .30-.60, silicon .50-1, chromium 1-1.5, molybdenum .45-.65, phosphorus .03 max., sulphur .03 max.

ing tube installations. The upper curve of this figure shows the influence of variations in the chromium content and it is to be observed that, as in the case of the API strip specimens, the 7.0% chromium steel is twice as resistant as the 4.0%, and the 9.0% chromium steel has only half the corrosion loss of the 7.0% steel.

The lower curve of this figure shows the benefits to be derived by a nominal increase in the silicon content and by the addition of aluminum. It is interesting to note that the corrosion resistance of Alcrosil 5 is twice that of the standard 5 Cr Mo steel and comparable to that of the 7% chromium steel. A comparison of the two curves of this figure would indicate an increase in the silicon content by about 0.50% has the same general influence as an increase of 1.0% in the chromium content.

These results, as well as others which have been made available, indicate that exactly comparable results may not be obtained from the strip specimens and from commercial tubes. Both types of tests show the chromium content to be a very important factor in imparting corrosion resistance but in general increased silicon content, or the addition of aluminum, seems to improve the resistance of actual tubes to a greater extent than the strip specimens. This is evident from a comparison of Fig. 1 and 3. Stress, as well as velocity and flow conditions, may be factors causing these differences.

The results which have been set forth were obtained under specific operating conditions. The character of the crude, as well as variations in the operating temperature and pressure might definitely shift the various curves but it is believed that the steels will still retain their same relative order of merit, a belief substantiated by the data of Fig. 1. These curves should therefore, serve as a guide in the selection of steels for oil refinery service.

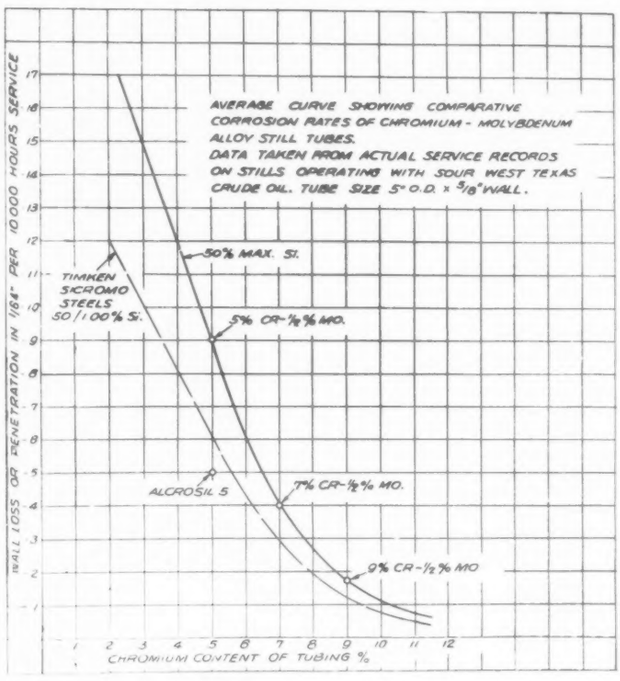
AVERAGE CURVE SHOWING COMPARATIVE CORROSION RATES OF CHROMIUM - MOLYBDENUM ALLOY STILL TUBES.
DATA TAKEN FROM ACTUAL SERVICE RECORDS ON STILLS OPERATING WITH SOUR WEST TEXAS CRUDE OIL. TUBE SIZE 5" O.D. x 5/8" WALL.
TIMKEN SICROMO STEELS 50/100% Si.
.50% MAX. Si.
5% CR-½% MO.
7% CR-½% MO.
9% CR-½% MO
ALCROSIL 5
WALL LOSS OR PENETRATION IN 1/64" PER 10,000 HOURS SERVICE
CHROMIUM CONTENT OF TUBING %

Fig. 3—Upper curve shows the influence of variations in chromium content on corrosion resistance. Lower curve shows benefits to be derived from nominal increase in silicon content and by addition of aluminum

Comparative Physical Properties of 5, 7 and 9% Chromium Steels

● While the 5.0% chromium steels have been, and still are, the most widely used alloy steels for cracking still tube service, there is an increasing trend to the 7.0 and 9.0% chromium type materials. The primary reason for this is because of the increased corrosion resistance of the higher chromium analyses. As previously shown, many of the available corrosion results indicate the 7 Cr Mo type to be twice as resistant to the attack of hot petroleum products as 5 Cr Mo, while the 9 Cr Mo grade is twice as resistant as the 7 Cr Mo type.

While the influence of increased chromium content on the corrosion resistance is fairly well established, its effect on the high temperature strength is not as fully recognized. Consequently, it is believed advisable to compare the high temperature characteristics of these steels.

Description of Steels

The chemical composition, heat treatment, hardness, structural grain size and room temperature physical properties of a series of steels of these grades are given in Table I. Insofar as the chemical composition is concerned it is believed:

(1) That the silicon content of the 7.0 and 9.0 Cr grades should be between 0.50 and 1.0% because of the beneficial effect on the oxidation resistance, especially during possible periods of overheating. For these steels it should not be above 1.0% silicon, for this ele-

TABLE I

Description of 5.0, 7.0 and 9.0% Chromium Type Steels

A. **Chemical Composition**

Type	C	Mn	Si	Cr	Mo
5 Cr Mo	.10	.45	.18	5.09	.55
Sicromo 7	.11	.43	.92	7.33	.59
Sicromo 7M	.11	.40	.95	7.42	.99
Sicromo 9	.10	.38	.65	9.74	.64
Sicromo 9M	.12	.44	.67	9.50	.95

B. **Heat Treatment, Hardness and Structural Grain Size**

Type	Heat Treatment Deg. Fahr.	Brinell Hardness	Grain Size Structural
5 Cr Mo	Ann. 1550	128	6-8
Sicromo 7	Nor. 1750, T. 1500*	174	8
Sicromo 7M	Nor. 1750, T. 1500*	179	8
Sicromo 9	Nor. 1750, T. 1500*	179	8
Sicromo 9M	Nor. 1750, T. 1500*	183	8

*Tempered for 6 hours at 1500 F.

C. **Room Temperature Physical Properties**

Type	Tensile Strength	Yield Stress 0.2% Set	Proportional Limit	Elongation % in 2 In.	Red. of Area, %	Charpy Impact
5 Cr Mo	66,600	26,250	19,000	37.0	80.5	81
Sicromo 7	88,250	56,500	37,500	31.8	71.0	58
Sicromo 7M	89,650	57,500	43,750	33.0	71.6	50
Sicromo 9	88,750	59,000	36,500	32.0	72.7	43
Sicromo 9M	93,650	60,350	40,000	31.0	70.2	55

ment, like chromium and molybdenum, is a ferrite former and a two-phase structure might result.

(2) That the molybdenum range should be 0.90 to 1.10 rather than in excess of 1.10%. Molybdenum is a powerful ferrite former and with this element present in excess of 1.10% a two-phase structure may result and this will be accompanied by low impact resistance and a tendency to pronounced grain growth.

The steels listed in Table I have a very acceptable combination of strength, ductility and shock resistance.

Creep Resistance

The effect of increased chromium content on the creep resistance of these steels is given in Figs. 1 and 2. The first figure considers the stresses required for a creep rate of 0.01% per 1000 hours and, with a molybdenum of 0.50%, the creep strength decreases continuously as the chromium is increased beyond 5.0%. With 1.0% molybdenum the creep strength at 1100° F. is not greatly influenced by increasing chromium content but at 1200° F. the higher chromium steels are again inferior to 5 Cr. Mo.

Fig. 2 compares the strength of these five steels, based on the stress required for a creep rate of 0.10% per 1000 hours. In the presence of 0.50% molybdenum, the higher chromium steels are again inferior to 5 Cr Mo but the ad-

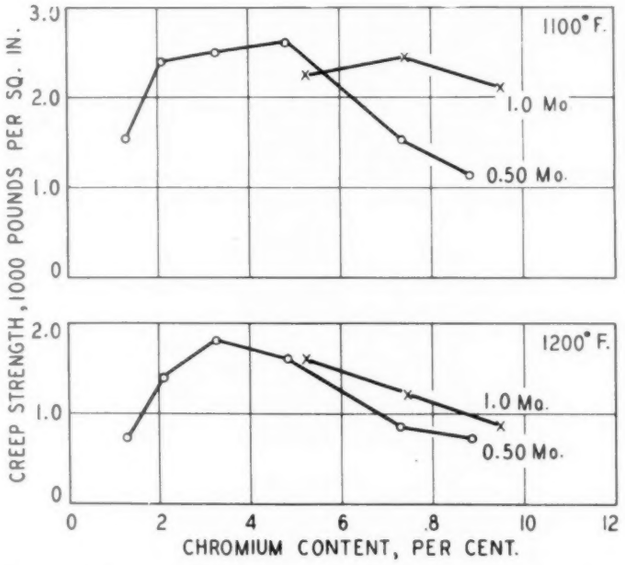

Fig. 1—Influence of varying chromium and molybdenum content on the creep strength (0.01%/1000 Hr.)

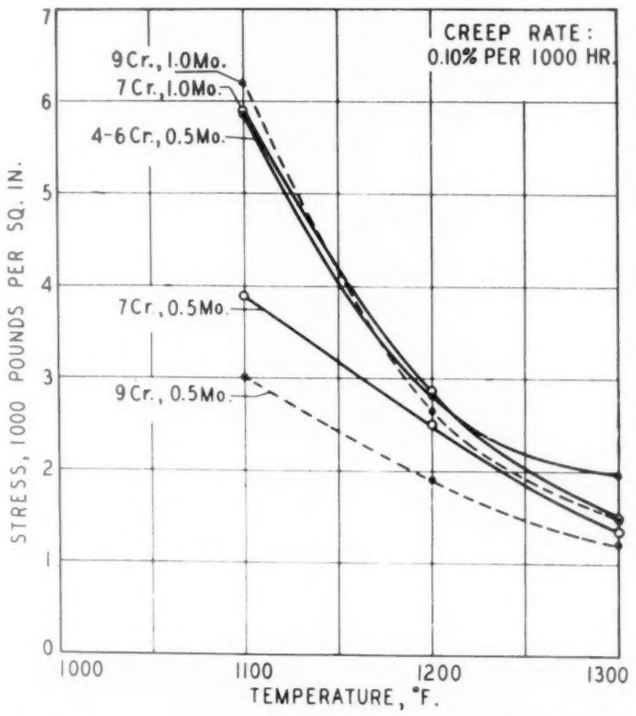

Fig. 2—Creep strength of higher chromium steels with 1.0% silicon maximum (Creep rate 0.10%/1000 Hr.)

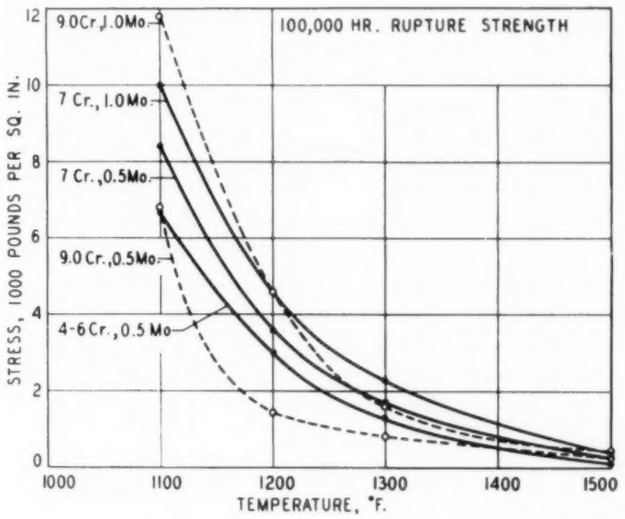

Fig. 3—Rupture strength characteristics of higher chromium steels with 1.0% silicon maximum

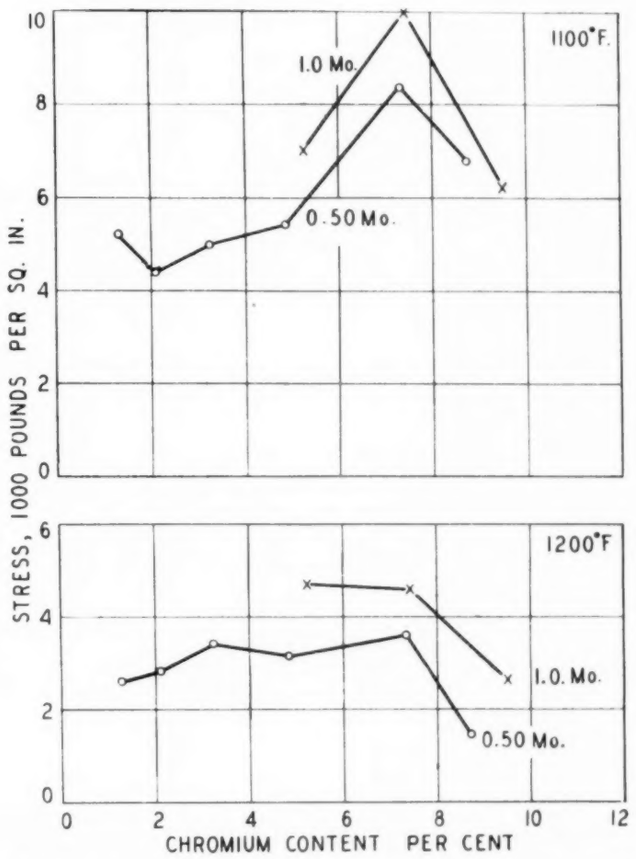

Fig. 4—Influence of varying chromium and molybdenum content on the rupture strength (100,000 Hr.)

dition of 1.0% molybdenum to the 7.0 and 9.0 Cr steels makes them equal to 5 Cr Mo steel. In other words the increase of molybdenum from 0.50 to 1.0% appears to exactly offset the weakening effect of the increased chromium content.

Rupture Strength

A comparison of the rupture strength of these steels at temperatures of 1100 to 1500° F. is shown in Fig. 3. As in the case of the creep strength, the 9 Cr-0.50 Mo is inferior to 5 Cr Mo but the remaining steels are all superior. This is especially true of these steels containing 1.0% molybdenum. The relative order of merit of the steels is, however, not the same at all of the temperatures considered.

These results are rearranged in Fig. 4 so as to show more clearly the effect of increasing chromium content on the rupture strength at 1100 and 1200° F. At 1100° F., a chromium content of 7.0% possesses the greater strength while at 1200° F., the 5.0 and 7.0% chromium grades are nearly equal. At both temperatures an increase in the molybdenum content from 0.50 to 1.0% markedly improves the rupture strength.

Discussion of Results

From the results presented it is apparent that the relative strength of these higher chromium steels varies depending upon the particular deformation rate considered. On the basis of the lowest creep rate, increasing the chromium content above 5.0% lowers the strength, while, on the basis of the rupture data, the 7 Cr Mo steel is superior to the 5 Cr Mo. This raises the question as to which strength characteristic should be used in the design of cracking still tubes. As stated previously the rupture data are believed to be most satisfactory for this purpose since the deformation rates considered are more comparable to those encountered in service, especially during the periods of overheating.

All of these steels possess a very suitable combination of properties in the original heat treated condition and these properties are not adversely influenced by service at elevated temperatures. Likewise, their hot ductility to fracture, even under prolonged time periods, is very good and they will, therefore, undergo bulging before actual fracture.

A.P.I. Tank Cleaning Manuals Revised

Revised manuals on safe tank cleaning methods have been published by the American Petroleum Institute. They are in two sections; "A" for crude oil and unfinished products; "B" for gasoline storage tanks. Formerly the instructions for cleaning the two types of storage were issued in one manual.

Section A, a 12-page pamphlet, in addition to instructions for safe methods of cleaning, includes sections on protective equipment, recommended safe practices, and precautionary measures for workers.

Section B, on gasoline tanks, presents material on the hazards of cleaning tanks storing this product and gives details of methods and equipment to be used. Both pamphlets are well illustrated. They sell at 25c each for single copies, with discounts on purchases in lots, through the Dept. of Accident Prevention, American Petroleum Institute, 50 W. 50th St., New York.

Standard Diesel Engine Practices

Standard practices of the Diesel Engine Manufacturers Assn. have been revised and amplified and published in a 160-page book by Diesel Publications, Inc., New York. The subject matter deals primarily with heavy duty, low and medium speed engines of sizes commonly used in stationary power plants, 200 HP and higher, rather than the smaller automotive engines. Details of plant layout, erection of engines, installation of fuel oil storage systems are given, selection of engine sizes for given loads and suggested forms for bids and specifications. Cost data is included but it is meager on fuel and lubrication costs.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

March 31, 1942

Catalytic hydrocarbon reactions and catalysts therefor—Willis G. Craig, Redlands, Calif., assignor to James W. Jean, Altadena, Calif. Filed Aug. 2, 1940. No. 2,277,819.

Process for reforming and polymerizing hydrocarbons—Philip Subkow, West Los Angeles, Calif., assignor to Union Oil Co. (Calif.). Filed Aug. 12, 1935. No. 2,277,938.

Hydrocarbon conversion—Kenneth M. Watson, Chicago, Ill., assignor to Universal Oil Products Co. Filed May 13, 1940. No. 2,278,228.

Catalytic apparatus—Richard E. Nagle, New York, and Leon P. Gaucher, Mount Vernon, N. Y., assignors to Texas Co. Filed June 29, 1940. No. 2,278,892.

Process and catalyst for conversion of normal paraffins—Milton W. Lee, Long Beach, Calif., assignor to Union Oil Co. (Calif.) Filed Sept. 6, 1938. No. 2,278,934.

Production of hydrocarbons—Wilhelm Michael and Ernst Plauth, Germany, assignors to Standard Catalytic Co. Filed June 6, 1939. No. 2,279,052.

Pipe still furnace structure—David G. Brandt, Westfield, N. J., assignor to Cities Service Oil Co. Filed Dec. 14, 1938. No. 2,278,192.

Azeotropic distillation—Edmund Field, Wilmington, Del., assignor to E. I. du Pont de Nemours & Co. Filed Aug. 22, 1940. No. 2,279,194.

Refining cracked motor fuel distillates—Heinz Heinemann, Shreveport, La., assignor to Forward Process Co., Hillside, N. J. Filed Oct. 28, 1939. No. 2,279,195.

Catalyst regeneration—Will K. Brown, Chicago, assignor to Standard Oil Co. (Ind.) Filed June 30, 1938. No. 2,278,509.

Process for regeneration of catalysts containing thorium—Karl Buchner, Germany, assignor to Hydrocarbon Synthesis Corp., Linden, N. J. Filed June 26, 1939. No. 2,278,644.

Method of asphalt manufacture—Joseph C. Roediger, Brooklyn, N. Y., assignor to Standard Oil Development Co. Filed Oct. 10, 1939. No. 2,278,671.

Bituminous emulsion—Willard C. Ashbury and Frederic H. Garner, London, England, assignor to Standard Oil Development Co. Filed Mar. 29, 1940. No. 2,278,684.

Manufacture of catalysts—John F. Stirgeon, Chicago, assignor to Universal Oil Products Co. Filed Sept. 8, 1939. No. 2,278,746.

Reactivating catalyst—Roland B. Day, Chicago, assignor to Universal Oil Products Co. Filed July 31, 1940. No. 2,278,836.

Lubricating oil composition—Eric S. Hillman, Oakland, Calif., assignor to Shell Development Co. Filed Sept. 9, 1939. No. 2,278,851.

Coating aggregate with bitumen—Robert R. Thurston, Chappaqua, N. Y., assignor to Texas Co. Filed Oct. 5, 1940. No. 2,278,954.

Recovery of hydrocarbons from fuel gases—Paul E. Kuhl, Madison, N. J., assignor to Standard Oil Development Co. Filed Mar. 17, 1939. No. 2,278,999.

Flushing oil—George L. Matheson, Union, and Raphael Rosen, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed July 20, 1938. No. 2,279,001.

Condensation of ketones—Charles A. Cohen, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Nov. 24, 1939. No. 2,279,020.

Compounded lubricating oil—Roland F. Bergstrom, Oakland, Calif., assignor to Shell Development Co. Filed Sept. 23, 1940. No. 2,279,086.

Mineral oil composition and improving agent therefor—Darwin E. Bertscher, Robert H. Williams, and Henry G. Berger, Woodbury, N. J., assignors to Socony-Vacuum Oil Co. Filed Oct. 5, 1939. No. 2,279,218.

April 14, 1942

Isomerizing hydrocarbons—Harry A. Cheney, Berkeley, Calif., assignor to Shell Development Co. Filed April 22 and 28, 1941. Nos. 2,279,291 and 2,279,292.

Hydrocarbon conversion—Gordon B. Zimmerman, Chicago, Ill., assignor to Universal Oil Products Co. Filed June 9, 1939. No. 2,279,547.

Treatment of cracking stocks—Wayne L. Benedict and Jacob E. Ahlberg, Chicago, Ill., assignors to Universal Oil Products Co. Filed March 31, 1939. No. 2,279,550.

Catalytic conversion of hydrocarbons—William E. Bradley and John L. Volz, Los Angeles, Calif., assignors to Union Oil Co. (Calif.). Filed Jan. 18, 1938. No. 2,279,703.

Process of dewaxing crude and refined petroleum oils—Thomas J. Brown, Cohoes, N. Y. Filed May 8, 1940. No. 2,279,937.

A research project relating to the removal of organic sulfur from manufactured gas has been established at the Institute of Gas Technology by the Rochester Gas & Electric Corp. The institute is affiliated with the Illinois Institute of Technology in Chicago.

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'Conservation Specialist' Speeds Collection Of Scrap for Standard of California

COLLECTION of scrap metal and other material at refineries of the Standard Oil Co. of California has been incorporated into the company's well organized reclamation program, which has been pushed for the past 11 years. The drive for scrap is also lending impetus to the work of salvaging material, which, in one peacetime year, in all departments, saved the company $2,000,000 by making available reclaimed material in place of buying new.

Evidence of the importance which this company attaches today to reclamation work is its statement that, under wartime conditions, it would be willing to spend one dollar on reclamation, if necessary, to make available one dollar's worth of materials for replacement. In normal times it has made reclaimed material usable at an average cost of 20c for each dollar of replacement value.

The reclamation program is now organized for double duty, to scrape to the bone to deliver new supplies to the nation's steel mills, to help keep their furnaces going on the production of war goods, and to salvage material and equipment to keep company operations up to par, says the company's publication, *Standard Oil Bulletin*, in an article entitled "Junk Preferred".

"With the company's energetic peacetime program of reclamation as a foundation to work on, a conservation specialist has been appointed to speed the release of all scrap and unapplied materials," says the bulletin. "He keeps direct contact with managers, plant superintendents, engineers and other members of his department and is always available for any assistance required by government officials. His is the job, first, of providing more scrap for conversion; and second, of side-stepping the purchase of new material which in itself represents two vital essentials—man-hours and machine-hours—needed in hundreds of other industries devoted to full-scale wartime production."

5 Rules for Conducting Reclamation

Standard of California conducts its reclamation work under 5 functional headings: (1) utilization, (2) substitution, (3) dismantlement, (4) reclamation and (5) disposal of scrap. The keynote of this company work is thus described: "Repair wherever possible instead of replace; substitute instead of purchase; reclaim instead of scrap."

To further add to its scrap collections, the operating management of the company is now making a survey to determine where obsolete units can be dismantled, wrote F. S. Bryant, assistant to the president. "It is expected a good deal of material will be made available in this way, even though the company's reclamation program has been under way for a good many years," he stated. Plans have been worked out for the more economical use of all company forms, involving literally tons of paper annually, by the auditors in the company's 4 most active operating centers, San Francisco home office, Los Angeles office, and El Segundo and Richmond refineries, stated Mr. Bryant.

WPB Recommendations Used

For the better direction of the scrap collection drive in all its branches, all directors and department heads have been sent by President H. D. Collier an organization outline for oil companies supplied by George T. Weymouth, Washington, chief of the Industrial Salvage Section, Bureau of Industrial Conservation, War Production Board. This outline is as follows:

General Objective

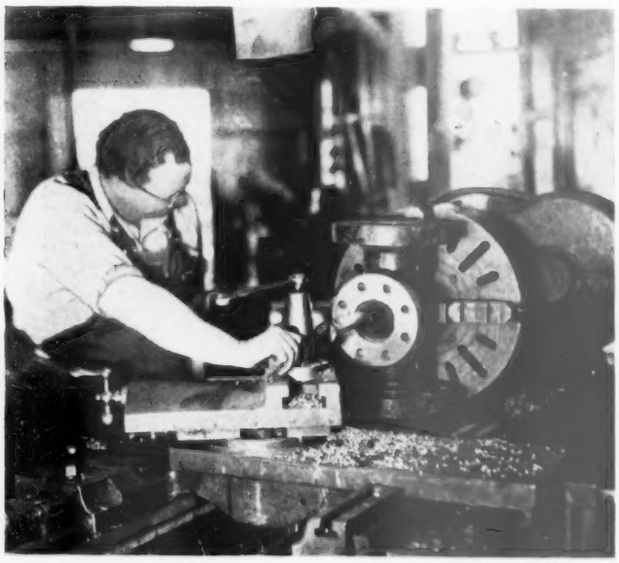
A. The objective is to determine whether assistance could be rendered to National Defense by making available tonnage of scrap iron and steel, non-ferrous metals, rubber, cotton and woolen rags, waste paper, etc., by the modification of existing methods of scrap collection and scrap sale and/or by possible adoption of more radical dismantling or scrapping programs.

Recommended Basic Factors Governing the Approach to the Objective

A. The amount of "savings" to be directly realized through prices received, while a factor needing consideration, ought not to be the dominant one.

B. All materials and plant equipment not in active service should be studied for salvage, except storehouse active stock, "insurance" items, purely temporarily idle items, etc.

C. Questionable idle items ought to be presumed free



Reclamation work goes hand-in-hand with scrap collection, at the plants of California Standard. In the operation shown a flanged pipe fitting is being refaced

Salvaging two elbows and a tee, in the reclamation shop of the California Standard. The rest of the material will go into scrap for the furnaces of the steel mills

The automobile on a diet

For more than a quarter century the refiner's foremost job was to make enough gasoline to keep millions of cars on the go and make it good enough to satisfy their ever more exacting engines

He did it well and Universal helped him

For years Universal processes have been the backbone of the refining industry

Now it's a different industry—a war industry

Today, special chemicals and heavy fuel oil are the most precious products made from petroleum—not motor gasoline

The automobile is on a diet

Universal processes are vital war processes now, converting fractions that once made gasoline into the constituents of 100-octane fighting aviation fuel, toluene for TNT, butadiene and styrene for synthetic rubber

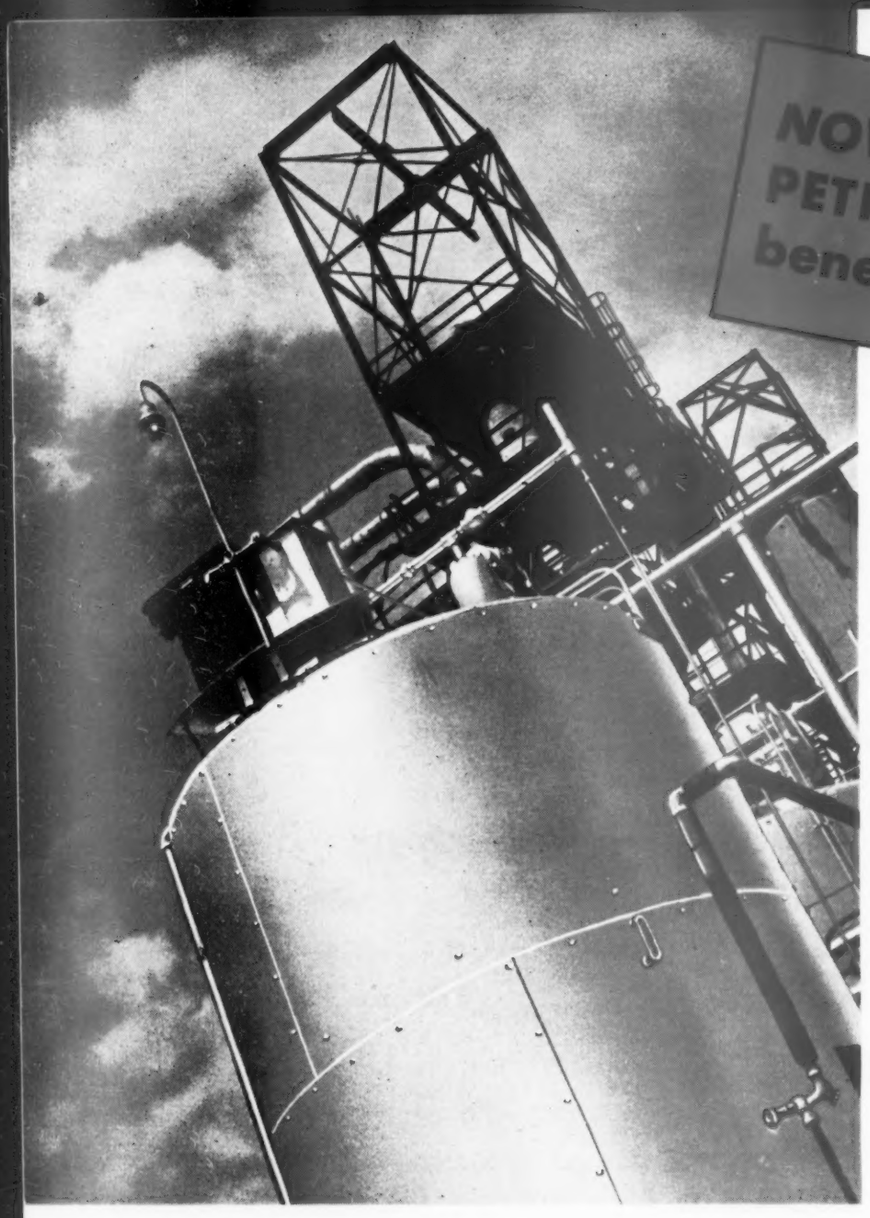
What's left is mostly fuel oil to fire the furnaces of our war industries and speed our ships at sea

All those processes are at the service of every refiner who can use them, under license from Universal—to help win the war

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

THE REFINERS INSTITUTE OF PETROLEUM TECHNOLOGY



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deeper cracking
decreasing ammonia use
optimum operations

Always of economic importance to the refiner, these benefits of Petreco Electric Desalting are vital to refinery operation on a war-time basis... There obviously will be a definite ratio between the demand for petroleum products and the increasing production rate of war machines. It is equally obvious that the demand for high quality motor fuels and lubricants will require optimum refining operations—*but*, if the added strain of war production results in equipment failures calling for replacements of corrosion resistant alloys, the mechanized ordnance program at the same time renders these metals scarce and often unavailable . . . This condition is one of acceleration, and time is a highly significant factor. In short, as more planes, ships, tanks and trucks roll off the production line, the demand for petroleum products becomes increasingly great, but the same program that calls for more fuel and lubricants, will limit metals for refinery repairs . . . Undoubtedly some refinery replacement metals will be available—but that is a slim argument against any practical measure to maintain refinery equipment's usefulness.

If you are charging salty crudes, your equipment is vulnerable to salt troubles. For a survey of your refinery for adequate protective measures, call on Petreco.

Three ways to check on potential salt trouble

Write for the Petreco Bulletin, Determination of Salts in Crude Oils.

Send a sample of your charging crude to a Petreco Testing Laboratory, either at Houston, Texas or Long Beach, California.

Ask for a Petreco representative to call, and discuss your problem with him.

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and available unless otherwise proven. The burden of proof should be on the side of retention.

Specific Items for Discussion

A. Existing methods and scopes of collecting various kinds of scrap in each of the works or divisions.

B. Existing methods of operating the reclamation and scrap disposal yards—the segregation of scrap by classes, kinds of material, study of the amounts on hand, etc.

C. Storehouse obsolete stocks—the disposal of existing items and a study to determine if additional ones exist.

D. Plant idle equipment—over, on, or under the ground.

Suggested Procedure

A. Each works or division should designate one member of its management (the executive in charge of mechanical work, or his immediate assistant is suggested) to personally and actively represent that unit.

B. The undersigned will call at each unit in person and discuss the subject with the appointed man above mentioned.

C. Prior to such visit, it is suggested that lists of all plant idle equipment and any other advance data be prepared.

Plan Works Successfully

The company that originated this organization outline, it is said, has begun delivery of what will total 24,000 tons of iron and steel scrap, 400 tons of non-ferrous scrap, 300 tons of paper and 35 tons of rubber, the outline further suggests the following places where oil companies can find scrap:

RUBBER	METALS
Steam Hose	Idle equipment, over, under and on the ground
Air Hose	Old manifolds
Discharge and Suction Hose	Scrap in Field
Rubber Boots	Old skimming plant units
Bicycle Tires	Old Cracking units
Auto Tires	Old Tanks
Pump Rubber Valves	Old Pumps
Gaskets	Old Valves
Rubber Stoppers (Laboratory)	Old Pipe
	Old Flanges
PAPER	Metals from old drilling rigs
Old Files	Metals from old pumping units
Card or corrugated board	Old casing
Wrapping paper	

Abstracts from Current Literature

"Determination of Olefins in C_3 and C_4 Hydrocarbons"

By B. R. Stanerson and Harry Levin, The Texas Co. Presented before the Petroleum Division, American Chemical Society, April 20-24, 1942.

In view of the importance of refinery gases as sources of material for alkylates for aviation gasoline and other new essential war products secured from petroleum, methods for the determination of the degree of unsaturation of these and other gaseous hydrocarbons are being given more attention. The laboratory method described is for the determination of olefin content of C_3 and C_4 hydrocarbons (propane and butane series) by direct titration of a sample condensed in cold chloroform. The same principle, bromination by means of a solution of bromine in glacial acetic acid under conditions of titration, has been used successfully with liquid hydrocarbons.

The method with modifications as applied to gases is said to be suitable for routine plant control operations because of its simplicity and rapidity, duplicate analysis being completed within 15 to 20 minutes after the sample has been introduced in the apparatus. It is said the method may be used for the determination of unsaturation of C_3 and C_4 cuts obtained by low temperature fractional distillation, as well as for numerous plant gases that are essentially free from ethylene.

* * *

"Grease Consistency Investigations"

By C. M. Larson, chief consulting engineer, and C. L. Knopf, staff engineer, Sinclair Refining Co., in April bulletin, "Institute Spokesman" of the National Lubricating Grease Institute.

Factors which change the consistency of lubricating greases are discussed and the variations in consistency of different types of greases with changes in temperature are shown. The worked consistency at 77 F. (ASTM test D217-38T) has little bearing on that met in actual practice, it is brought out, as bearing applications run at both higher and lower temperatures.

A laboratory instrument is described, the Sinclair-Knopf grease worker, which allows bearing greases to be classified with regard to their stability in high temperature service. Another instrument, the Sinclair pressure viscosimeter, is described as a means for measuring accurately the pressure-viscosity of semi-plastic and plastic greases. Tests capable of being performed with the Knopf Consadometer in measuring the consistency, adhesiveness and other properties of greases are outlined. A conversion chart provides a correlation between consistency measurements on this instrument and those by the ASTM cone penetration method.

* * *

"Oxidation Characteristics of Lubricating Oils"

By G. H. von Fuchs and H. Diamond, Shell Oil Co., Inc., Wood River, Ill. Presented before Petroleum Division, American Chemical Society, Memphis, April 20-24, 1942.

The work reported on here consisted of a systematic correlation of the oxidation characteristics of lubricating oils with basic composition, methods of processing, and addition agents used, to determine the relationship between stability of lubricating oils and their chemical composition. Particular emphasis was given to the effect of aromatic components, in lowering the rate of oxidation, as has been reported on by previous investigators. The oxygen-absorption measurement method was selected as a means for evaluating stability, as being more suitable from the standpoint of actual service performance than the customary routine tests.

To determine the effect of aromatics on stability, oils were tested of similar composition except for their aromatic content, and also oils to which known aromatic compounds had been added and it was determined that the less-extracted oils, those with the aromatics, exhibited greater stability. Other tests brought out the retarding effect upon oxidation of aromatics in bright stock and it was stated that, whereas bright stock in the past has generally been used to make oil more viscous, it now seems to be important also as an antioxidant. While laboratory oxidation experiments can be correlated with the general rate of deterioration of oil in an engine, agreement with the appearance of the engine cannot always be expected, it was brought out, due to variations in the manner in which soluble oxidation products are precipitated.

* * *

"Producing a Rubber-Like Synthetic"

Editorial Staff Article in Chemical and Metallurgical Engineering, April, 1942.

A brief description is given of the forming operations in the manufacture of Resistoflex BVA, a proprietary rubber-like synthetic, of which polyvinyl alcohol is the base material. Resistant to a high degree against refrigerant gases and organic solvent materials including petroleum, it is finding a wide field of uses, among them hose for petroleum products. Versatility in methods of fabrication is one factor accounting for the diversity of applications.

A 4000 HP Diesel-electric locomotive in heavy passenger service on the Burlington railroad. It is made up of two 2000 HP units which may be used separately. The drawbar horsepower is produced by 4 independent power plants

Diesel versus Steam Locomotives*

By Robert Aldag**

Relative amounts of transportation produced by the two types of locomotives in heavy passenger work are summarized as follows, from the experience data of the Burlington Railroad:

Steam locomotives of 20% greater drawbar horsepower cannot better the performance of the Diesel-electric, due to extra weight and delays incidental to steam locomotive operation.

A Diesel is available to produce 77% more train miles in passenger service, due to inherent advantages in flexibility, reliability and maintenance requirements.

The factors which give Diesels their high availability rate by reducing the amount of time for inspection, maintenance and repairs include: standardization of design of many parts, ready accessibility of items requiring inspection and running maintenance and relative lightness of running maintenance work, resulting in less time consumed in removing and applying parts.

The challenge of the Diesel-electric to the long-accepted steam locomotive has resulted in improvements in design of the latter and better maintenance practice which is greatly improving its service. Operating cost data were not included in this discussion.

THE problem of selecting economical railroad motive power is as old as the first railroad. However, for nearly a century the selection of motive power for a majority of American railroads, as well as those of other countries, was confined to a number of types of reciprocating steam locomotives, chiefly because the steam locomotive was the only heavy duty motive power unit that embodied the entire process of converting fuel heat energy to mechanical energy at the rail.

One of the first challenges to the steam locomotive was made by the gas-electric unit during the 1920's in branch line service. However, noteworthy as the savings effected by this unit were, they did not have any large significance from the standpoint of main line railroading. Now steam operated railroads can consider two entirely different kinds of motive power, steam and Diesel-electric, when planning for future requirements in all classes of service.

That there are now two kinds of power to be considered is perhaps one of the most significant things about the development of the Diesel-electric locomotive, for the challenge to the long accepted steam locomotive has given impetus to a series of investigations and discussions that have served to reveal what some of the objectives are in modern locomotive design, and to emphasize some of the factors which have long been recognized as contributing to the earning capacity of a locomotive.

It is the purpose of this paper to review from the standpoint of earning capacity what railroads are finding out about the relative merits of steam and Diesel power.

The experience of the Burlington Railroad with other than steam motive power in regular service began in 1923 with a 45 horsepower gas-mechanical passenger car. During 1927 and 1928 a total of 57 gas-electric passenger cars were placed in service on branch lines to relieve 192 eight-wheeled and ten-wheeled steam locomotives.

These 57 cars, one Diesel-electric switching locomotive and four gas-electric switching locomotives were in service on the Burlington when the first streamlined Diesel-electric train in the United States, the Pioneer Zephyr, was placed in service on the Burlington in 1934. Since that time a total of 18 Diesel-electric locomotives ranging from 600 to 4000 rated engine horsepower have been placed in passenger service on the Burlington. In addition, 51 Diesel-electric switching locomotives ranging from 360 to 1000 rated engine horsepower have been assigned on the Burlington.

When the Pioneer Zephyr was inaugurated, the most modern steam motive power on the Burlington were twelve 4-6-4 type and eight 4-8-4 type locomotives which had been built in 1930. To date, two 4-6-4's and twenty-eight 4-8-4's have been added to the roster. The entire roster

*Presented before the Midwest Power Conference sponsored by Illinois Institute of Technology, Chicago, April 9-10.

**Engineering Staff, Burlington Railroad.

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This battalion of METRIC-AMERICAN Recording Orifice Meters, installed on the field separator, may give some idea of the scope of activities at Continental Oil Company's new Ville Platte (Louisiana) plant. A 8600-horsepower giant which sets new precedents in field stabilization, natural gas recovery and pressure maintenance!

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of these types of locomotives have been equipped with roller-bearings on all journals, five 4-6-4's have been equipped with roller-bearing on crankpins, and all except nine of the 4-8-4's have been equipped with light weight reciprocating parts which greatly facilitate proper counterbalancing for high speed service as well as other benefits to be noted later.

Paved Way for High-Speed Service

At the time of introduction, the Diesel-electric locomotive was a synonym for the high-speed streamlined train. In this new service the limitations of the conventional steam locomotive of that time were readily recognized and need not be reviewed here. However, the development of the Diesel locomotive for heavier service has been paralleled by refinements in steam locomotive design which overcame a number of heretofore inherent handicaps to steam locomotive operation. This being the case, it is of interest to confine this paper to a discussion of a class of service in which modern units of both kinds of motive power have been operated on the Burlington Railroad; that is, heavy passenger work.

Drawbar Horsepower Compared

This qualification of the subject matter centers our attention on the 4000 horsepower Diesel-electric and the 4-6-4 and 4-8-4 steam locomotives. Table 1, lists comparative data, including drawbar horsepower at various speeds on level tangent track for these locomotives.

The first measure of a locomotive's ability to produce transportation is taken by investigating its ability to sustain and improve the existing traffic schedules for operating the railroad. The character of this basic function of a locomotive is largely determined by drawbar horsepower, and is modified by speed range and the delays incidental to the operation of the locomotive. The 4-6-4 steam locomotive develops approximately the same maximum horsepower as the 4000 HP Diesel; however more weight and a slower rate of horsepower development through the accelerating range of speed renders the 4-6-4 unable to equal the Diesel's performance.

The 4-8-4 locomotive develops sufficient horsepower through the normal speed range for long heavy passenger runs to have an advantage over the Diesel in this one respect. The extra weight of this locomotive, 104 tons more than the Diesel, has a negligible effect on its performance through a range from 35 to 80 miles per hour as compared to the performance of the Diesel. This can be illustrated for grade operation by the equation:

$$G = 18.75\ S\ \frac{(HP_2 - HP_1)}{(W_2 - W_1)}$$

where,

G = % grade locomotives will haul same trailing load at speed S,
HP = Drawbar horsepower on level tangent track at speed S,
S = Speed in miles per hour,
W = Total locomotive weight in tons.

TABLE 1

Comparative Data on 4000 HP Diesel-Electric and Two Types of Steam Locomotives

	4-6-4 Steam	4000 HP Diesel	4-8-4 Steam
Overall length, ft.	93-4	143-1	106-5
Total wheel base, ft.	82-5	127-1	94
Rigid wheel base ft.	13-8	14-1	19-3
Weight, total, lb.	724,500	626,600	835,700
Weight on drivers, lb.	208,700	392,00	280,500
Wheels, number and diameter:			
Engine truck or idler	4-36	8-36	4-36
Driving	6-78	16-36	8-74
Trailing truck	4-48½	.....	4-42½
Fuel Capacity:			
Oil, gallons		2400	
Coal, tons	24	.....	27
Feedwater storage capacity, gal.	15,000	2100	18,000
Rated tractive effort, lb.	47,700	98,000	67,500
Factor of Adhesion	4.37	4.00	4.15
Drawbar horsepower on level tangent track at:			
10 miles per hour	1200	2360	1680
20	2060	3080	2740
30	2660	3290	3420
40	3060	3300	3820
50	3310	3260	3980
60	3400	3180	3920
70	3370	3040	3660
80	3200	2880	3220
90	2910	2700	2640
100	2460	2520	.....
Weight per maximum D.HP., lb.	213	190	210

Diesel Speed Range—40 to 117 M.P.R.

The possible speed range for continuous operation of the Diesel locomotive is from 40 to 117 miles per hour. By continuous operation, is meant the speed range through which the locomotive may be operated constantly without causing damage to the electrical transmission. There are lower speed limits for hourly and 30-minute operation; however these are based on initially cool electrical machines and are therefore not entirely available for train operation.

This operating characteristic, peculiar to electrical transmissions, is aggravated in the case of the Diesel-electric because of the space and weight limitations placed on the design of the main generator and traction motors. A restriction of this sort affects the productivity of the locomotive in that the advantage of high drawbar horsepower at low speeds is only realized in starting trains and on relatively short grades. This means that train weight must be limited so that the balancing speed on ruling grades will be above the continuous rated speed limit; however there is but one grade on the Burlington over which these locomotives now operate that appreciably limits the number of cars that can be handled. That grade, incidently, is 52 miles long and climbs steadily with gradually increasing grade percentages from 0.5% to 1.4%.

This does not reflect on the all-around utility of the Diesel-electric locomotive, for the continuous rated speed limit can be lowered to any desired point by designing the proper gear ratio into the locomotive power truck. This sacrifices a relative amount of range in the maximum speed limit which is determined by the peripheral speed of the traction motor armature when geared to minimum diameter wheels

Steam Locomotive Improvements Planned

The possible speed range of the steam locomotives is limited by their respective capacities as listed in Table 1. Steam locomotive builders and operators have long been aware that the high speed capacity of the conventional locomotive is limited substantially by restrictions inherent in the piston valve type of steam distribution. Accordingly, the Burlington is now preparing to equip one of the 4-8-4 locomotives with the poppet valve gear system of steam distribution which has been developed by the Franklin Railway Supply Co., and which has been operating successfully on one of the locomotives of the Pennsylvania Railroad.

The expected improvement in high speed capacity of the 4-8-4 is beyond the scope of this paper; however, it is recognized that a substantial increase will have an important effect upon the status of this locomotive in passenger as well as freight service.

Though time does not permit a thorough discussion of permissable speeds with regard to track, it is noteworthy that the improvements in counterbalance have so reduced dynamic augment that speeds over 100 miles per hour are permissible with the 4-6-4, and speeds slightly over 90 miles per hour are permissible with the 4-8-4.

Specifically, the counterbalancing of these locomotives has been adjusted on the basis of slipping tests which were made in 1938. According to those tests the dynamic augment is 50% of static wheel load at 115 miles per

hour for the 4-6-4, and at 92 miles per hour for the 4-8-4. From the standpoint of static wheel loads, the Diesel locomotive is believed to be less harmful to the track structure, as the static driving wheel loads of the steam locomotives here discussed are from 42% to 43% greater than that of the Diesel.

Servicing Time Lower on Diesels

Delays caused by the taking of fuel and water have been reduced for the steam locomotive during recent years by applying large capacity tenders and by increasing the delivery rate of water standpipes. A number of coaling stations are located so that locomotives do not have to be removed from trains to take coal. Water standpipes and cinder pit facilities are also provided at these points and have been arranged for simultaneous servicing of the locomotives. The actual time necessary for the act of taking fuel and water with a steam locomotive is not appreciably greater than with the Diesel; however the Diesel has an outstanding advantage in its longer range between fuel and water stops and its ability to take fuel and water simultaneously at regular station stops.

Fire cleaning and servicing of crankpins, valve gear, mechanical lubricators, and so forth create delays for the steam locomotive that are not present in Diesel operation. Such servicing can be done at regular station stops; however, it remains that the accumulated delays make existing Diesel operated schedules difficult for steam locomotives. As a matter of fact, a number of conventional train schedules have been shortened on the Burlington since the 4000 HP Diesel locomotives were placed in service.

Diesel Availability Rates Higher

One of the characteristics which has been stressed in favor of Diesel motive power is availability. It is apparent that there is a wide gap between the maintenance requirements of the two kinds of power which makes possible the outstanding advantage of high availability enjoyed by the Diesel-electric locomotive. This gap is not a matter of quality or quantity so much as it is a matter of the kind of work involved.

The maintenance work on steam locomotives on the Burlington is well organized and is, of course, directed toward maximum monthly mileage per locomotive. Through the application of one-piece cast steel locomotive beds with cylinders integral, roller-bearings on all journals, light weight side rods and reciprocating parts, roller bearings on valve gear pins, and many other metallurgical and mechanical refinements in locomotive design the time required for running and heavy repairs has been substantially reduced for steam locomotives. Nevertheless, such items as periodic boiler washing, 30-day and annual locomotive inspections, wheel work, flue cleaning, and so forth cut materially into the time the steam locomotive is available for service.

Diesel Maintenance Advantages

Diesel-electric locomotives enjoy the following advantages regarding maintenance:

1. Standardization of design allowing establishment of a pool of such parts as require periodic heavy maintenance such as wheels, traction motors, trucks, engine governors, cylinder head assemblies, pistons, cylinder liners, and so forth.

2. Ready accessibility of items requiring inspection and running maintenance.

3. Relative lightness of running maintenance work resulting in less time consumed in removing and applying parts.

The Diesel engine and locomotive in general require a very high grade of maintenance work; however supervisory men have developed a schedule for maintenance that provides for first class work without affecting the availability of the locomotive. I believe that this opportunity to work out a progressive maintenance program cannot be emphasized too strongly as one of the outstanding advantages of the Diesel-electric locomotive over the steam locomotive.

To illustrate this the following information is given with regard to locomotive mileage on the Burlington:

Maximum Monthly Mileage Compared

During July, 1939, in addition to handling local express trains, the 4-6-4's functioned as supplementary power for the Twin Cities and Denver Zephyr Diesel locomotives and handled 93.6% of the train miles now regularly assigned to the 4000 HP Diesel units. The maximum locomotive mileage in July, 1939, was 20,442, and was made by a 4-6-4 equipped with roller-bearings on crank pins as well as journals. The average monthly mileage in 1939, adjusted for Class 5 repair occurrence, for five such 4-6-4's was 14,300. Average monthly mileage for all the 4-6-4's has been avoided as they involve utilization in alternative secondary assignments and do not give an accurate indication of the relative availability of these units.

The maximum mileage made during July, 1941, by one of three 4000 HP Diesels which had been operating 16 months at that time was 25,430, and the average for the three Diesels was 23,750 miles a month during 1941.

The years 1939 and 1941 were selected because they are the only full years available for comparing the performance and operation of modern steam and Diesel locomotives in the same service on essentially identical trains on the Burlington. This comparison is not appreciably affected by any fluctuation in traffic density, for the assignments of the Diesel in 1941 were only 3600 miles more than the utilization program, which has been worked out for these units in regular timetable service, calls for.

Diesel Availability Found Higher

The figures stated bear some explanation. The two July's were busy passenger months, with extra sections of, or the amplification of, the high-speed Twin Cities Zephyr trains. The maximum mileage comparisons for one 4-6-4 and one 4000 HP Diesel give an indication of the relative availability when both locomotives were used intensively in the same service and the opportunity to utilize each was governed by normal running repairs. In this respect the Diesel was available for 24% more mileage than the 4-6-4.

In comparing the locomotives for respective years, the necessity of removing the 4-6-4's periodically for Class 5 repairs is found to seriously affect their availability. The Class 5 repair is normally made necessary by the condition of the locomotive drive wheel tire treads. The estimated average mileage between Class 5 repairs for the five 4-6-4's was 73,500 miles. The necessary work such as tire turning, repairs to machinery, boiler and tender required an average of nine to ten days.

The corresponding repairs on the Diesel locomotive are worked out on a progressive basis and can be taken care of at terminals in the normal layover period allotted for running repairs.

This advantage has just been mentioned, and it is stressed again here, for it is seen to constitute the means of attaining high Diesel mileage. The Diesel was available for 66% more mileage than the steam locomotive over a period of one year due to inherent expedition of running and Class 5 repairs.

The third class of maintenance to be reckoned with is the Class 3 or general repair. The estimated average mileage between Class 3 repairs for the five 4-6-4's was 264,400. On the basis of 14,300 miles per month, the locomotives were available 18.5 months between Class 3 re-

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INDEX TO ADVERTISERS

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pairs. The average time required for the Class 3 repairs of these locomotices was 55 days; thus the maintenance cycle was 20.33 months for 41% of which the locomotive was on the road. The average monthly mileage corrected for Class 3 repairs was 13,000 miles.

On the basis of experience with the 3000 HP Diesel locomotives which have been assigned to the Denver Zephyr runs since November, 1936, the 4000 HP Diesel's maintenance cycle should be about 36 months including approximately 30 days for a Class 3 repair. If this assumption is accepted, then it can be said that the Diesel will be on the road for 97.3% of its maintenance cycle, and that its average monthly mileage adjusted for the Class 3 can then be estimated at 23,000 miles.

It would then appear that we can expect these Diesel locomotives to be available for 77% more mileage than the 4-6-4 locomotives.

Diesels Prove More Reliable

Regarding reliability, while this factor has been automatically included in the above estimate, a particular inherent advantage should be mentioned here for the Diesel-electric locomotive.

The drawbar horsepower of the 4000 HP Diesel is produced by four independent power plants. Therefore, while any occurrence requiring the blocking of one or more cylinders in an engine or the complete shutting down of an engine is highly undesirable and is avoided through all possible efforts, such occurrences do not often constitute serious train delays.

This feature also given a certain amount of flexibility to the locomotive in addition to making it possible to make running repairs to the Diesel engines enroute. Except for a number of isolated cases of emergency, it has not been necessary to maintain Diesel locomotives enroute on the Burlington.

Finally, the 4000 HP Diesel is available for more miles than the 4-6-4 locomotive because it is made up of two 2000 HP units which may be used separately as supplementary power to other units. Actually, practice of this kind has been limited almost entirely to the amplification of the Twin Cities Zephyr trains in lieu of using one of the 4-6-4's as was the practice in 1939.

Summary

To summarize the following has been established regarding the relative amounts of transportation produced by steam and Diesel locomotives:

1. Steam locomotives of drawbar horsepower equal to a Diesel locomotive cannot equal that Diesel's performance due to extra weight and delays incidental to locomotive operation.

2. Steam locomotives of 20% greater drawbar horsepower than a Diesel locomotive cannot better that Diesels performance on account of delays incidental to locomotive operation.

3. A diesel is available to produce 77% more train miles in passenger service on the Burlington than the best steam locomotive record due to inherent advantages in flexibility, reliability, and maintenance requirements.

Inasmuch as the 4000 HP Diesel locomotives have been operating on conventional trains only 24 months, it is thought that, in the absence of actual maintenance cost data for a substantial operating period embracing general repairs, any estimate of total operating cost at present could not be accurate for a year hence and would, therefore, be not at all helpful.

Looking to the future in railroad motive power the gas and steam turbines are being recognized and investigated as possible railroad prime movers. These and the constantly improving steam and Diesel-electric locomotives will play an important role in tomorrow's operation of American railroads that pay their own way!

(*Continued from page* 16)

others within the oil industry so that every member of the industry, no matter what his capacity, has a good understanding of what the industry is doing and the benefits that flow to the public therefrom. Members of the industry are the real salesmen of whatever the industry is, to the general public.

Inform the Public

After the story has been told to the industry, it can be told in many ways to the public. It can be told through lectures by industry scientists, to the technical men of the country as well as to classes in schools and colleges. This technical story can be placed in text books, or special technical booklets for use in class rooms.

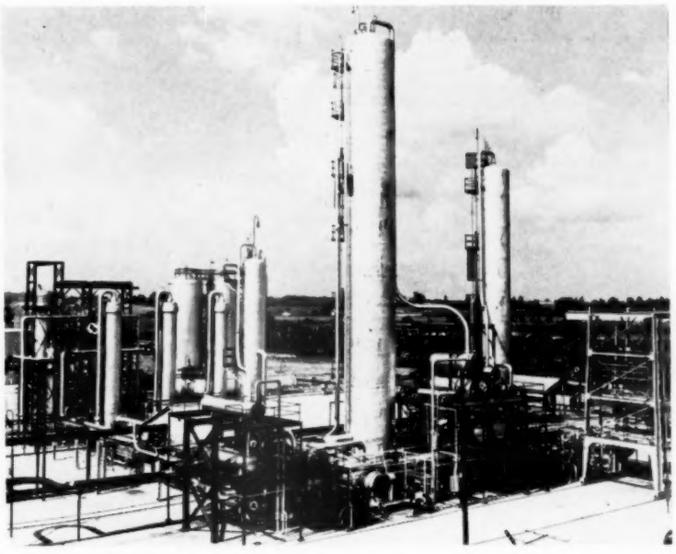
And the story can be told by each company, even in connection with its "product" advertising. Good "product" advertising need not be confined to general physical descriptions nor to large pictures. Many customers, at least, like to know more about how a product comes about and something interesting about who makes it. So often in business too sharp a line has been drawn between the seemingly direct statement to sell the goods and the statements that build goodwill and understanding of company and product upon which, in the last analysis, all sales must be firmly based.

Tell What Oil's Doing

One great trouble with the oil industry and its relationships, both internal and with the public, is that too much thought and money have been spent on driving directly for the sales dollar and too little effort given to telling everyone both within and without the industry what it is all about. Oil is such a big industry that necessarily much that it does is a mystery to both those within as well as those without the industry. And mystery looks like secrecy and secrecy, or lack of knowledge, are quite likely to beget suspicion.

Oil, as well as all other industries, is moving rapidly to a crisis in its relations with government. Only the greatest and most extensive knowledge in the minds of the greatest number of people can bring fair considerations of our industry and governmental problems.

The Shell Oil Co. has been telling the story of its scientific achievements through its advertising for a long time. Before me is an advertisement from a current issue of a national magazine, telling of the effect of a product of Shell research on the raising of fruit and vegetables.



Alkylation plant—for aviation gasoline

Fertilizer From Oil

We saw this product manufactured at the big plant of the Shell Chemical Co. just outside San Francisco on the Bay. There, among other things, hydrogen was taken from petroleum gas and combined with nitrogen taken from the air to make NH_3. This gas was liquefied in high pressure cylinders, as used for ordinary liquefied petroleum gas. Farmers install the cylinders near their irrigation ditches and bleed the gas into the water. Two-year tests on an orange grove showed an increase of 100% in productivity. In this same plant was another product of powdered fertilizer, also from petroleum molecules.

Shell, in its general advertising, has also been telling how its products make for better food, better clothing, drugs, cosmetics and the better prosecution of the war. In fact, as we proceeded through the large research buildings at Emeryville, Calif., and at Wood River, Ill., we had pointed out apparatus that has been "put on the shelf for the duration" because it did not directly pertain to work that would help the war. Every man has been directed full time to necessary war research, and that, so far as we have heard, is also the program followed in all other oil company laboratories.

A program of war research recently submitted to the War Production Board by a C.I.O. chemists union with headquarters on the Pacific Coast, and urging nothing but war work in all research, is several years behind the times so far as Shell and other American oil companies are concerned. It is too bad that more oil companies have not written in their advertising a clear record to the general public about the excellent war work their laboratories have been doing the past few years. C.I.O. and most other labor unions have made much capital politically these days by taking advantage of the ignorance of the public and making broad and even vicious charges, and bombastic claims, as if they had just discovered something brand new, when industry had been doing that very highly recommended thing right along.

Started at Wood River

The Shell trip really began at its Wood River refinery just above East St. Louis, Ill., on April 6th. A day and a half were spent there at both the new research laboratory and going over the refinery now running close to 85,000 bbls. a day of crude. The party then entrained for San Francisco where it visited the nearby Emeryville laboratories and the Shell Chemical Co. plant at Shell Point. The following Monday, April 13th, it visited the refineries at Wilmington and Domingues near Los Angeles.

To get into the details of what the party saw and was told would make it necessary to hand this article to the military censors before it could be run. This would not only cause delay but perhaps not much more information would be published than is already given here.

Writers in Party

The science and business writers in the party were: Tom Hyland, representing *Time, Fortune* and *Life* magazines; Harry Ferguson of the United Press (Scripps-Howard newspapers); Denver Lindley, associate editor of *Colliers;* Harlan Manchester, special technical writer and of the staff of *Readers' Digest;* John J. O'Neil, science editor, *New York Herald-Tribune;* Sidney Self, science editor, *Wall Street Journal;* Frank J. Taylor, special business writer and representing *Saturday Evening Post;* Dr. Frank Thone, feature editor, *Science Service* of Washington, D. C.; M. A. Williamson, publisher, *Chemical & Metallurgical Engineering* of the McGraw-Hill Pubg. Co., New York; Thomas Henry, science editor, *Washington Evening Star* and North American Newspaper Alliance.

With the party for the whole trip for Shell were J. H. Sembower, manager of public relations, and H. L. Curtis, advertising manager. Also with the party for Shell at the various plants were: E. D. Cummings, vice-president of manufacturing; R. C. Roberts, manager, Horace Dale, superintendent, and Frank Cutting, assistant superintendent, Wood River refinery; I. Hemhill, manager, Martinez; D. Calderwood, manager, Wilmington; J. Oostermayer, president, L. V. Steck, vice-president, Shell Chemical Co.; and D. Sheldon, vice-president and W. J. Hund, manager, S. Tijmstra, associate director of laboratories, and Messrs. A. J. Johnson, S. H. McAllister, Harry Sutherland and R. G. Landis from Shell Development Co.; and Dr. Karl R. Edlund, director of research at Wood River refinery.

Canadian Paper Mills Face Fuel Oil Ration

Special to NPN

TORONTO—The pulp and paper mills of British Columbia which use about 20,000,000 gal. of fuel oil a year and constitute largest industry using fuel oil in the province, may shortly be placed on a rationed basis, due to increasing tanker sinkings and growing scarcity of all petroleum products, it is learned here. Almost 100% of British Columbia's oil requirements is brought in by tanker.

Well 'Violates' 40-Acre Rule; WPB Orders Its Flow Halted

NPN News Bureau

WASHINGTON—While War Production Board has "cracked down" on only one oil producer to date for allegedly violating well-spacing rules in the M-68 order, there will be similar steps taken against other producers soon, NPN was told.

First "crackdown" was on Bel-Air Oil Co., Los Angeles. In an order dated May 7, WPB charged that this company, subsequent to Dec. 31, 1941, had spudded a well which had been drilled contrary to M-68's 40-acre spacing pattern. Well involved was listed as Twitchell No. 2 in Santa Barbara county, California.

Orders Production Stopped

For three months, from May 11 to Aug. 11, the WPB order provides, Bel-Air shall not produce oil from this well (unless public interest should require otherwise). Also, Bel-Air is to be denied priorities assistance and allocation of scarce materials during the 3-month period, according to terms of the order, signed by J. S. Knowlson, WPB's director of industry operations.

The WPB order declared that the alleged violation had "impeded and hampered the war effort of the United States by diverting materials to uses unauthorized by the Director of Industry Operations."

More to Come

Similar charges of violating M-68 have been made against certain producers in Illinois, Kansas, Mississippi and Oklahoma, NPN was told. And similar "stop orders" are expected to be issued against these producers soon by WPB.

Text of 'Stop Order'

Full text of this first "crack down" order for alleged violations of M-68, follows:

TITLE 32—NATIONAL DEFENSE CHAPTER IX—WAR PRODUCTION BOARD

SUBCHAPTER B—DIVISION OF INDUSTRY OPERATIONS

Part 1010—SUSPENSION ORDERS SUSPENSION ORDER NO. S-45

Bel-Air Oil Company, Los Angeles, California, is engaged in the production of crude oil in the State of California. It is subject to the provisions of Conservation Order M-68. Subsequent to December 23, 1941, the Company used material to drill Twitchell No. 2 Well, located 330 feet south and 330 feet west from the northeast corner of the northwest quarter of the northeast quarter of Section 35, Township 10 North, Range 34 West, Santa Barbara County, California. This well does not conform to a uniform well-spacing pattern of not more than one single well to each 40 surface acres. Furthermore, this well was "spudded" subsequent to December 23, 1941.

These violations of Conservation Order M-68 and Amendment No. 1 thereto impeded and hampered the war effort of the United States by diverting materials to uses unauthorized by the Director of Industry Operations. In view of the foregoing facts

IT IS HEREBY ORDERED:

1010.45 **Suspension Order**

(a) Bel-Air Oil Company, Los Angeles, California, its successors and assigns, shall cease production of oil from Twitchell No. 2 Well, located 330 feet south and 330 feet west from the northeast corner of the northwest quarter of the northeast quarter of Section 35, Township 10 North, Range 34 West, Santa Barbara County, California. However, the prohibitions of this paragraph (a) may be terminated, provided the Director of Industry Operations determines that the construction of the facilities used in the production of oil from Twitchell No. 2 Well is necessary and appropriate in the public interest and to promote the war effort. Upon such determination by the Director of Industry Operations, this paragraph (a) shall be terminated and be of no further force and effect.

(b) Deliveries of materials to Bel-Air Oil Company, Los Angeles, California, its successors and assigns, shall not be accorded priority over deliveries under any other contract or order, and no preference rating shall be applied or assigned to such deliveries to Bel-Air Oil Company, its successors and assigns, by means of Preference Rating Certificates, Preference Rating Orders, General Preference Orders, or any other orders or regulations of the Director of Industry Operations.

(c) No allocation shall be made to Bel-Air Oil Company, its successors and assigns, of any material the supply or distribution of which is governed by any order of the Director of Industry Operations, except as specifically authorized by the Director of Industry Operations.

(d) Nothing contained in this Order shall be deemed to relieve Bel-Air Oil Company, its successors and assigns, from any restrictions, prohibitions, or provisions contained in any other order or regulation of the Director of Industry Operations.

(e) This Order shall take effect on May 11, 1942, and shall expire on August 11, 1942, at which time the restrictions contained in this Order shall be of no further effect.

Issued this 7th day of May, 1942.

J. S. Knowlson
Director of Industry Operations

To Discuss 20-Acre Spacing

NPN News Bureau

WASHINGTON — To discuss an amendment to Conservation Order M-68 which would provide for 20-acre rather than 40-acre spacing in Illinois, a group of Illinois producers are to meet soon with War Production Board Chairman Nelson, Rep. Lawrence F. Arnold, Ill., told NPN. Rep. Arnold and Sen. Scott W. Lucas, Ill., are to participate in conference with the WPB chief.

Rep. Arnold spoke on floor of House April 16 (*See NPN April 22, p. 24*) favoring 20-acre spacing for Illinois, contending "that Illinois is different from other oil producing areas of the U. S. in that our oil is contained in very small pools that are difficult to locate, and which can be found only through drilling operations."

3 More Officials Laud Ickes' Stand

Letter from Reford Bond, Oklahoma City, chairman, Corporation Commission of Oklahoma.

May 1, 1942

Editor, NPN:

It was thoughtful of you to remember me and enclose me your editorial commending Petroleum Coordinator Ickes. I fully concur with you. I bespeak for the Petroleum Co-ordinator a splendid success in his undertaking, and a happy co-operation with the oil fraternity and the Regulatory Authorities.

Very sincerely,
Reford Bond

* * *

Letter from Col. Ernest O. Thompson, Austin, chairman, Texas Railroad Commission.

May 1, 1942

Editor, NPN:

I have received your letter with the attached copy of your editorial, "Ickes Takes Sound Position With States".

You know that I will agree that it is easier to deal with folks close to home than it is to deal with bureaus far removed from the people. So, naturally, I agree with your editorial. And, frankly, I believe the States will do a good job. Those that do not have good laws now will promptly pass them. At least, I hope so.

I am sure that the position taken by Secretary Ickes will make the States really get on the job and exert a real conservation effort. It looks like the OPC is trying to do a splendid job and I am going to give them every bit of co-operation and help I can.

Right now, one of the biggest problems is to get the intercoastal canal finished across the neck of Florida. It is now 92% finished—that is, from Corpus Christi, Texas, to the west coast of Florida and from the east coast of Florida to New Jersey.

Our Congressman Mansfield, from Texas, Chairman of the Rivers and Harbors Committee, has introduced a bill to authorize this work to be done as expeditiously as possible. I understand Senator Pepper from Florida, has introduced a similar bill in the Senate. This ought to be finished in ninety days and if this can be done, we will soon be relieved of our transportation troubles as wooden barges can be built to carry the crude and, besides that, heavy products can be brought back on the return trip, which will be a great help in relieving the general transportation problem for all heavy products.

I am enclosing a little chart illustrating what I mean. This chart also shows graphically the reserves of the Nation and last year's production. It is going to be included in our Annual Report. You are at liberty to use it in your good magazine if you see fit.

I often recall our very pleasant visit in Cleveland and I read your journal religiously.

With kindest regards, I am
Sincerely your friend,
Ernest O. Thompson

* * *

Letter from Warwick M. Downing, Denver, chairman, Colorado Gas Conservation Commission.

May 2, 1942

Editor, NPN:

I thank you very much for the editorial concerning Mr. Ickes. I thought it was splendid. Keep up the good work.

With very best wishes, I am
Sincerely,
Warwick M. Downing

Crude Stocks Up

NPN News Bureau

WASHINGTON—Texas crude stocks jumped 1,657,000 bbls. at close of week ended May 2. Total U. S. and foreign crude stocks were 259,145,000 bbls., up 2,072,000 bbls. from previous week, Bureau of Mines reports.

Large increases also were reported in Louisiana, up 300,000 bbls., Rocky Mountain, up 220,000 bbls., and California, up 191,000 bbls.

Armed Men Guard East Texas Field

Special to NPN

HOUSTON—Armed men now guard vital parts of the world's biggest oil field, the billion-dollar East Texas field, according to an announcement from a committee of 15 oil operators who have completed a field defense program.

A. B. Capers, chairman of the committee, said that under the extensive system East Texans are prepared to protect the field from fire to air raids and to deal with possible saboteurs, which committeemen fear more than open attack.

Authorized by Gov. Coke Stevenson of Texas, the defense group has its own communications center which is on the alert 24 hours a day, ready to set into motion immediately the entire organization.

Has Four Zones

The East Texas field was divided into four zones, each with a defense chairman and numerous branches down to the individual fire-fighters, first aid men and others.

The guards at the vital portions of the field no longer admit the public to the plants or grounds. East Texas operators are taking no chances.

THE TRIANGLE THAT SYMBOLIZES SERVICE

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4. *NO WHARFAGE.* There is no wharfage at our own private docks.

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A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORP.

WILKINSBURG SERVICE STATION and offices of Wilkins Oil & Gas Co. Sinclair Distributors, Wilkinsburg, Pa. Superservice facilities, here, take care of scores of cars daily.

A. W. Johnson, and staff of Wilkinsburg Service Station.

RUTH ST. Service Station, Mt. Washington, Pittsburgh, and (below) Standard Auto Supply Co., 624 Foreland, Pittsburgh, Wilkins Co. outlets.

SHEPHERD Service Station, Babcock Blvd., and (below) Walton's Service Station, W. Liberty Ave., Pittsburgh, Wilkins Co. outlets.

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his experience with Sinclair

A. W. JOHNSON, of Wilkins Oil & Gas Co. Sinclair Distributors, Wilkinsburg, Pa.

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HAMILTON Service Station, Hamilton Ave., Homewood. Outlet of Wilkins Co.

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WILKINS OIL & GAS CO.

SINCLAIR OPALINE MOTOR OIL
WELLSPRINGS OF MILLION YEARS

WILKINSBURG, PENNSYLVANIA

Mr. J. M. Woodruff
Sinclair Refining Company
New York, N. Y.

April 10, 1942

Dear Mr. Woodruff:

As Sinclair Distributors we naturally have been much interested in the letters you have been receiving from other distributors handling your products.

Their experiences, I am pleased to report, check very closely with our own. Our eight years with Sinclair have been satisfactory in every way.

In fact, at no other time during my 20 years in the oil business and my contacts with various companies, have I had the equal of my pleasant, helpful and satisfactory relations with Sinclair.

Right now, we have one of the nicest oil and gasoline businesses in this town. That speaks a lot for the quality and performance of Sinclair products because they were new to this particular section when we took them on.

They are well liked and do well at all of our 25 retail outlets in this territory.

Sinclair merchandise also gives a good account of itself in the commercial field. We have a nice list of commercial accounts and never have had to worry about competition or about holding them. Sinclair products keep them satisfied.

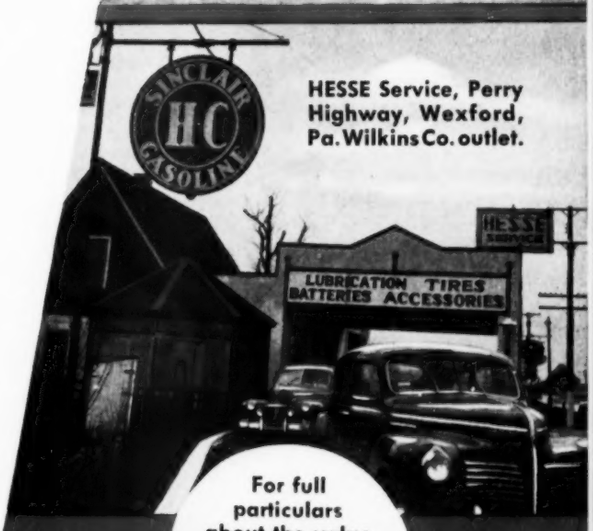
I can report, too, that features like the Sinclair credit card plan are very helpful. We do as high as $400 a month in credit card business at our main station in Wilkinsburg.

I often recall our first interview eight years ago. told me that when a Sinclair Distributor is in trouble, Sinclair siders itself in trouble too. Sinclair was not full of promises - not promise me much then. But they have never failed in eight years ive me every possible break when breaks were needed.

Our experience sums up to this: We couldn't ask for than we get from Sinclair and we are extremely well pleased to be air Distributors.

Very truly yours,

A. B. Johnson



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Producer Appeals OPA's Rule On Charge for Gathering Oil

NPN News Bureau

WASHINGTON—An East Texas crude oil gathering charge was the subject of first case filed with the Emergency Court of Appeals set up under the 1942 price control law.

Houston Oil Co. of Texas, Houston, Tex., has asked the newly-created appellate court to overrule a decision by Price Administrator Henderson, denying an increase in gathering charges from 2.5c to 5c per bbl. under a contract with Shell Oil Co., Inc.

Sells Crude to Shell

The producing company explained that it had entered into contract Oct. 30, 1940, to sell crude to shell. Due to "depressed" conditions existing in East Texas at the time, seller agreed to accept a 2.5c per bbl. gathering charge. When contract was renewed Oct. 8, 1941, both parties agreed to payment of 5c for gathering, the customary charge, it was explained.

Schedule 88 Steps In

After Office of Price Administration issued its Price Schedule 88, which "froze" crude prices and gathering charges as of Oct. 1, 1941, the crude buyer notified Houston Oil Co. that it could no longer pay more than 2.5c per bbl. for gathering charges—unless a 5c charge were approved under the price control law. This was agreed to by the seller.

Houston Oil Co. filed a petition with OPA asking for "exception" from Schedule 88 so that the 5c charge could be maintained.

'No Undue Burden'

By letter dated April 8, Price Administrator Henderson denied the petition (which was treated as application for an "amendment" rather than "exception" to Schedule 88). Mr. Henderson's letter said that "no undue burden resulting from operation of Revised Price Schedule No. 88 or any provisions thereof is demonstrated."

Appellant contends that OPA's denial of relief forces the producing company to perform service (gathering) at a loss.

Vinson Heads Price Court

Heading the price-appeals court—that is, the Chief Judge of Emergency Court of Appeals—is Hon. Fred M. Vinson, associate justice, U. S. Circuit Court of Appeals for the District of Columbia. Others appointed to the emergency court were Hon. Albert B. Morris and Hon. Calvert Magruder, judges on the federal appellate courts for the third and first circuits, respectively. All were appointed by Chief Justice Stone of U. S. supreme court.

Kelley Named as Clerk

Clerk of the price-appeals court is Paul L. Kelley, of Ashland, Ky., formerly secretary to Judge Vinson when the latter was in Congress from Kentucky.

Until recently, Mr. Kelley was assistant chief of the facilities unit, War Production Board. He was connected with Inland Gas Co. at Ashland, Ky., until 1935. He has a background of accounting and legal training.

Texans Back Plan For Florida Line

Special to NPN

HOUSTON—Producers meeting in two Texas cities have endorsed a bill introduced in Congress by Representative J. J. Mansfield, Texas, providing for expansion of inland water routes from the Southwest to the East, which the producers claim will greatly relieve the transportation pinch.

The producers, whose production has dwindled with Office of Petroleum Co-ordinator cutting allowables and companies reducing their purchases as much as 50% below the allowable, said that independents who do not have enough money to tide them over the lean period will lose their wells.

Study Transport Co-op

At Dallas, a committee headed by E. B. Germany began working on a suggestion to form a transportation and marketing co-operative to handle oil shipments from the Southwest to the East Coast. At the Dallas meeting May 5 of producers and royalty owners from all over Texas, strong endorsement was given proposals now before Congress to lay two pipelines across Florida to connect the now existing intracoastal canals along the Gulf Coast and the Eastern Seaboard.

At a meeting at San Antonio May 6, producers named a five-man committee, headed by Col. E. O. Thompson, chairman of the Texas Railroad Commission, to go to Washington and urge passage of the Mansfield bill, as well as seek all means possible for alleviating the transportation shortage.

Texaco Cuts Takings In Southwest Texas

Special to NPN

HOUSTON—The Texas Co. has announced that effective as of 7 a.m. May 7 it reduced purchases of crude oil 50% in fields in Duval, San Patricio, Nueces, Refugio and Zapata counties of Southwest Texas. The reduction amounts to about 2500 bbls. daily and was made "due to the uncertainty of boat transportation". The crudes affected are heavy crudes which usually move via tanker from Corpus Christi.

Texaco several months ago reduced purchases 50% in west Texas, New Mexico and the Texas-Louisiana Gulf Coast fields in which it purchases, including its own wells.

Kentucky Oil, Gas Men Plan Mid-Year Meet

Special to NPN

LEXINGTON, Ky. — Annual mid-year meeting of the Kentucky Oil & Gas Assn. will be held here on Friday, May 22. Headquarters are at the La-Fayette Hotel but meetings will be held at the Ashland Golf Club.

Two government officials will address the evening meeting.

Frank M. Brewster, chief of the natural gas and natural gasoline division, Office of Petroleum Co-ordinator, Washington, will talk on "The Effect of the Various War Production Board Orders on the Oil and Gas Industry and the Necessity for the Industry's Co-operating in the Promotion of the War Effort".

Wirt Franklin, Chicago, director of production, District 2, OPC, will give a talk entitled "Oil Men, Keep Awake".

The morning will be devoted to a technical session and the afternoon to a golf tournament and other entertainment.

Schoeppel Resigns Post To Run for Governor

Special to NPN

TOPEKA, Kans. — A. F. Schoeppel has resigned as Kansas Corporation Commissioner in order to run for the governorship, a position being vacated by Gov. Payne Ratner. Gov. Ratner has appointed Jeff Robertson of Kansas City, Kan., to the vacant corporation commission post. Mr. Robertson, a lawyer, has been State Labor Commissioner under Ratner's administration.

New Method Seen To Tell Behavior Of Oil Reservoir

NPN News Bureau

WASHINGTON — A new method of evaluating the producing capacities of oil wells by comparing the amount of recovered petroleum with the decline of pressure in the reservoir has been suggested by Bureau of Mines engineers following an extensive study of reservoirs in different parts of the country, Dr. R. R. Sayers, director of the Bureau announces.

Results of the investigation have provided a "new tool" useful in analyzing the performance of individual petroleum reservoirs and in determining the efficiency of operating methods, Dr. Sayers stated, which is expected to be of considerable value in the current wartime emergency when production of oil to meet essential requirements, such as aviation gasoline, is desirable.

Covers 4 States

Described as a way to determine oil-reservoir behavior based upon pressure-production data, the Bureau's present study deals with conditions in representative oil fields in the states of Texas, Oklahoma, Arkansas and New Mexico. The information obtained and the methods developed therefore should be applicable to reservoirs of similar types.

By plotting the cumulative decline of reservoir pressure against the cumulative amount of oil recovered, the presentation of a graphic logarithmic chart showing the relationship between them is possible, according to the report which has just been published.

Copies Available

In an effort to accumulate data which may aid operators to exploit and operate newer fields with greater efficiency, the Bureau engineers studied the pressure-production relations of a number of reservoirs on which longtime information data was available.

Detailed descriptions of these fields, together with tables, charts and other pertinent information, are included in R. I. 3634, "Oil Reservoir Behavior Based on Pressure-Production Data," by H. C. Miller which may be obtained without charge by writing the Bureau of Mines, Department of the Interior, South Building, Washington, D. C.

Oil TRANSPORTATION

Empty Car Quota For Shippers Put At 1-Day Supply

NPN News Bureau

WASHINGTON — No more than one day's supply of empty tank cars should be held at refineries or water and pipeline terminals (except for certain war products), according to Recommendation No. 44 issued May 7 by Deputy Petroleum Co-ordinator Davies.

Two days' supply of empties may be kept at any refinery for aviation gasoline and its components; special naphthas; liquefied petroleum gases; toluol and toluene; butadiene and lubricating oils.

Releases 5000 Cars

OPC estimates that this move will be equivalent to making 5000 additional cars available for service to the East Coast and Pacific Northwest.

"It is essential to the successful prosecution of the war that all tank cars in the United States be used with maximum efficiency in order that the largest possible quantity of petroleum and petroleum products be moved overland to the points of greatest need," Deputy Petroleum Co-ordinator said. "Reducing the lay-over time at refineries and terminals is one means of increasing the efficiency of tank cars."

At present, about 44,000 tank cars are being used to move crude and products to the curtailment areas, OPC says.

This recommendation was approved by Assistant Attorney General Arnold.

ODT Tank Car Plan Delayed to June 1

NPN News Bureau

WASHINGTON — General Order No. 7, by which Office of Defense Transportation seeks to force tank cars out of short hauls, goes into effect on June 1 instead of May 15 in order to give shippers more time to file applications for exception. *(See NPN May 6, Page 3—Ed.)*

ODT Director Eastman announced the postponement on May 9.

The order provided that no loaded tank car could be moved without a permit from ODT unless moving in excess of 100 miles, or into curtailment area of East Coast or Pacific Northwest, or to a government agency.

$20,000,000 Earmarked For Barges, Towboats

NPN News Bureau

WASHINGTON — Senate has earmarked $20,000,000 of U. S. Maritime Commission's appropriation for building of towboats and barges to haul "oil, gasoline, fuels and other commodities" on inland and coastal waters. Action was taken May 6 in an amendment to Independent Offices Appropriation Bill, already passed by the House.

Admiral Land, maritime commission head, opposed amendment, saying that it was unnecessary. If Defense Transportation Director Eastman finds that a barge-building program is necessary, then other government agencies, including the maritime commission and the Reconstruction Finance Corp., have the authority and funds to carry it out, said Admiral Land.

In reply, one senator suggested that this manifestation of interest by Congress in getting oil to the East Coast might get quicker result from the government agencies concerned.

Southwest-to-New York Gas Pipeline Asked

NPN News Bureau

WASHINGTON — Application for construction of a 1500-mile natural gas pipeline from a point near the Texas-Louisiana state line to New York City, has been filed by Reserve Gas Pipe Line Co. with the Federal Power Commission. Estimated cost is $80,000,000.

FPC says this application "appears to be similar in all respects" to a 1940 filing, except alternate routes are being considered.

It is proposed to sell natural gas to industrial consumers for their own consumption and at wholesale to gas distribution companies for resale. Furthermore, application says:

"In this area on the Atlantic seaboard in which applicant proposes to market natural gas there is presently no natural gas service generally available."

30% of Remaining Tank Cars May be Taken for East Coast

(Continued from page 3)

crude and products to the West Coast. Only exceptions are tank cars designed to haul liquefied petroleum gases and acid, or not otherwise suitable for general petroleum transportation service, and tank cars in service from Districts 2 and 3 to District 1.

Moreover, this subcommittee is to "investigate the loading, unloading, routing, and handling of all tank cars used in petroleum service in Districts 1, 2 and 3 and make appropriate recommendations to the owners, users, and handlers of such tank cars to the end that maximum efficiency of tank cars in appropriate supply services may be attained."

Following approval of this subcommittee's schedules "each user (of tank cars) shall, upon notice from the Joint Tank Car Subcommittee, release such tank cars in accordance with the said schedule for use in the movements directed herein."

Move More Heavy Fuel

Heavy fuel oil movements by tank cars from Districts 2 and 3 are to be hiked about 150,000 bbls. daily over present movements, the directive says. Aim is to move 125,000 bbls. daily of this product from District 2 (about 75,000 bbls. over present movement) and 145,000 bbls. daily from District 3 (also about 75,000 bbls. more than current daily movements).

To provide for full trainload lots, District 2's Supplies and Distribution Subcommittee, subject to directions from OPC's Director of Petroleum Supply, is to arrange for purchases, sales, exchanges and loans of heavy fuel oil, in District 2, "in all cases where such transactions will result in concentrating supplies of such heavy fuel oil for such movement."

To Supply Schedule

District 2's Supplies and Distribution Subcommittee is to submit a monthly schedule to District 1's Supplies and Distribution Subcommittee on amount of heavy fuel oil which can be handled in uncoiled cars.

District 1's refining committee is to provide for tank car movement of an additional 100,000 bbls. of East Texas crude to the East Coast.

District 2's Supplies and Distribution Subcommittee also is to arrange for an additional minimum of 10,000 bbls. daily of gasoline by lake tanker to the Buffalo-New York area.

Southeast's Supplies

To maintain motor gasoline supplies in Virginia, North and South Carolina, Georgia, Florida, Alabama and Mississippi, Districts 1 and 3's Supplies and Distribution Subcommittees are to provide for the sale, loan and exchange of this product so that the entire supply is obtained from points of entry on the Mississippi River and Gulf of Mexico.

To Limit of Pipelines

Provisions for the following are to be made by the Supplies and Distribution Subcommittee of Districts 1 and 3:

"The common use of river and Gulf bulk terminals by all primary suppliers of petroleum products in this area, regardless of ownership of such terminals.

"Limitation on use of pipelines for local distribution purposes to the end that the maximum use of such pipelines shall be made to supply the most northerly and easterly portions of this area.

"Limitation or elimination of the use of tank cars for local distribution of petroleum products within this area."

By Tank Car via Florida

Finally, plans are to be made for movement of 100,000 bbls. of crude and products by tanker and barge from Gulf Coast areas of Louisiana and Texas to west coast of Florida and then northward by tank car to Norfolk. From this point, it will be transshipped north by tanker, barge and other means.

OPC's Directive No. 50 was approved by Assistant Attorney General Arnold.

(Complete text on next page)

Full Text of OPC's Directive For Reallocation of Tank Cars

NPN News Bureau

WASHINGTON—Complete text of OPC's "Directive No. 50", providing for requisitioning of 30% of the tank car capacity in Districts 1, 2 and 3 (not now being used to haul crude and products to the East Coast), follows:

TITLE 32—NATIONAL DEFENSE
CHAPTER XIII—OFFICE OF PETROLEUM CO-ORDINATOR FOR WAR
[Petroleum Directive No. 50]
PART 1510—SUPPLY

The diversion for war of a large part of the American tanker fleet normally employed in transporting petroleum and petroleum products to the Atlantic Seaboard area together with the loss through enemy action of other vessels of that fleet has resulted both in a shortage of petroleum products in that area and in disruption of the balance of refinery operations in that area and other strategic areas in the United States. To minimize this shortage of petroleum products, particularly fuel oil, and to maintain the required production of war products manufactured both by the petroleum industry and other basic industries dependent upon an adequate and continuous supply of petroleum products, it is necessary to provide additional and supplemental means of transportation through the elimination and reduction of crosshauling overland and the more efficient use of other transportation facilities and to effect an adequate wartime balance of refinery operations.

NOW THEREFORE, in order to bring about that action required by the President's letter of May 28, 1941, defining the objectives and duties of the Petroleum Co-ordinator for War, I do hereby direct that:

§ 1510.1 **Designation of Joint Tank Car Subcommittee.** The Chairmen of the Transportation Committees for Districts One, Two, and Three shall designate, with the approval of the Petroleum Co-ordinator for War or the Deputy Petroleum Co-ordinator, a Joint Tank Car Subcommittee for Districts One, Two, and Three, comprised of two members from each of said districts, which subcommittee shall be charged with the responsibility of obtaining maximum efficiency in the use of all tank cars employed by the petroleum industry and of assuring that such tank cars are utilized to meet the critical problems of petroleum supply in each district. The District Director of Transportation for District Two shall sit with the Subcommittee as advisor and consultant in all deliberations of the Subcommittee and shall act as liaison officer between the Director of Transportation of the Office of Petroleum Co-ordinator and the Subcommittee*.

* §§ 1510.1 to 1510.14, inclusive, issued under the authority contained in the President's letter of May 28, 1941, to the Secretary of the Interior (6 F. R. 2760).

§ 1510.2 **Surveys and Investigations.** The Joint Tank Car Subcommittee for Districts One, Two and Three shall make such surveys and investigations and shall obtain such information with respect to the use and location of tank cars as may be necessary or desirable to accomplish the objectives specified in § 1510.1 of this chapter. All users of tank cars in the petroleum industry in Districts One, Two and Three shall furnish such information to the subcommittee promptly upon request*.

§ 1510.3 **Release of Tank Cars by Users Thereof.** In order to provide tank cars for the movement of petroleum and petroleum products as hereinafter in this Directive described, the Joint Tank Car Subcommittee shall prepare schedules providing for the release of up to 30 per cent of the tank car capacity, whether loaded or empty, in use by or available to each user of petroleum products tank cars in the petroleum industry in Districts One, Two, and Three, at noon on May 4, 1942: **Provided,** that tank cars designed to transport liquefied petroleum gases, acid, or otherwise not suitable for general petroleum transportation service, and tank cars in service from Districts Two and Three into District One shall be excluded from all calculations hereunder. After approval of any such schedule by the Chief Counsel of the Office of Petroleum Co-ordinator for War, in accordance with the provisions of § 1510.12 of this chapter, each user shall, upon notice from the Joint Tank Car Subcommittee, release such tank cars in accordance with the said schedule for use in the movements directed herein*.

§ 1510.4 **Supervision of Tank Car Operations.** The subcommittee shall thereafter investigate the loading, unloading, routing, and handling of all tank cars used in petroleum service in Districts One, Two, and Three and make appropriate recommendations to the owners, users, and handlers of such tank cars to the end that maximum efficiency of tank cars in appropriate supply services may be attained*.

§ 1510.5 **Heavy Fuel Oil from District Three.** In order to increase the supplies of heavy fuel oil in the East Coast Area (U. S. Bureau of Mines District, hereinafter referred to as "East Coast Area") and to provide an outlet for Gulf Coast refineries sufficient to enable such refineries to continue operations, a movement by tank car of 145,000 barrels per day of heavy fuel oil (approximately 75,000 barrels per day in excess of present movement) from Gulf Coast refineries to the East Coast Area shall be arranged as follows:

(1) The Transportation Committee for District Three shall prepare a monthly schedule, including specific points of origin, of tank car loadings of heavy fuel oil of a quality which will permit handling in uncoiled tank cars to be shipped to the East Coast Area. Such schedules shall be prepared in strict accordance with the provisions of the "Plan for the Formulation of Refinery Operating Program and the Distribution of Transportation Outlets in District Three" devised, approved, and directed to be put into operation pursuant to Recommendation No. 33, as amended. The schedules shall be filed by the Transportation Committee for District Three with the Supplies and Distribution Subcommittee for District One.

(2) Each person, natural or artificial, engaged in the business of manufacturing heavy fuel oil within the East Coast Area and each person bringing heavy fuel oil or causing heavy fuel oil to be brought into the East Coast Area shall purchase during each calendar month a proportionate share of the fuel oil to be shipped during such month hereunder by tank car from District Three, which shall be at least the same percentage as that which the individual's volume of sales of heavy fuel oil was of the total of all sales of heavy fuel oil made in the East Coast Area during the last six months of 1941 by all East Coast suppliers of heavy fuel. The calculation and assignment of each such person's share of fuel oil shall be made by the Supplies and Distribution Subcommittee for District One and embodied in a monthly schedule showing specific destinations. Each such person shall furnish such Supplies and Distribution Subcommittee with all information necessary for this purpose. The Supplies and Distribution Subcommittee of District One shall furnish complete information as to such monthly schedules to the Joint Tank Car Subcommittee for Districts One, Two, and Three.

(3) The Joint Tank Car Subcommittee for Districts One, Two, and Three shall secure the necessary tank cars in accordance with the provisions of § 1510.3 of this chapter and arrange for the use of such cars in the service of moving such fuel oil from locations determined pursuant to subsection 1510.5 (1) hereof to destinations in the East Coast Area named by the purchasers determined pursuant to subsection 1510.5 (2) hereof*.

§ 1510.6 **Heavy Fuel Oil from District Two.** In order to increase supplies of heavy fuel oil in the East Coast Area from sources nearest to such area so that the efficient use of transportation facilities may be increased, a movement by tank car of 125,000 barrels per day of heavy fuel oil (approximately 75,000 barrels per day in excess of present movement) from District Two refineries to the East Coast Area shall be arranged as follows:

(1) Subject to the direction of the Director of Refining, Office of Petroleum Co-ordinator for War, the Refining Committee for District Two shall establish a schedule of fuel oil production for each refinery in District Two, requiring necessary increases in the yield of heavy fuel oil and corresponding decreases in the yield of motor gasoline so that heavy fuel oil of a quality which will permit handling in uncoiled tank cars shall be made available in the quantity required for such movement.

(2) The Supplies and Distribution Subcommittee for District Two shall, subject to the direction of the Director of Supply of the Office of Petroleum Co-ordinator for War or such District Director as he may designate, arrange for purchases, sales, exchanges, and loans of heavy fuel oil among those engaged in the petroleum industry in District Two in all cases where such transactions will result in concentrating supplies of such heavy fuel oil for such movement at points in District Two where full train-load lots may be loaded.

(3) The Supplies and Distribution Subcommittee for District Two shall, in accordance with the provisions of subsection 1510.6 (1) and (2) hereof, prepare and submit to the Supplies and Distribution Subcommittee for District One a monthly schedule, including specific points or origin, of tank car loadings of heavy fuel oil of a quality which will permit handling in uncoiled tank cars to be shipped to the East Coast Area from such locations in District Two. The Supplies and Distribution Subcommittee for District One shall furnish complete information as to such monthly schedules to the Joint Tank Car Subcommittee for Districts One, Two, and Three.

(4) Each East Coast supplier of heavy fuel oil shall purchase a proportionate share of the heavy fuel oil to be shipped by tank car from District Two. The share of each such supplier shall be calculated and assigned as provided in subsection 1510.5 (2) of this chapter and embodied in a monthly schedule showing specific destinations.

(5) The Joint Tank Car Subcommittee for Districts One, Two, and Three shall secure the necessary tank cars in accordance with the provisions of § 1510.3 of this chapter and arrange for the use of such cars in the service of moving such fuel oil from locations determined pursuant to subsection 1510.6 (3) hereof to destinations in the East Coast Area named by the purchasers determined pursuant to subsection 1510.6 (4) hereof*.

§ 1510.7 **Refinery Operations: District One.** In order to maintain production of petroleum war products in refineries in the East Coast Area at required levels, and at the same time both to increase the supply of heavy fuel oil and distribute equitably the available crude oil supplies to all refineries operating in such area, the Refining Committee for District One shall prepare, pursuant to the provisions of Recommendation No. 33, as amended, a plan for refinery operation in District One which shall assign levels of crude oil runs in each refinery in such a manner that:

(1) Required production of petroleum war products shall be maintained with a minimum of crude oil runs in plants producing such war products in accordance with a monthly determination by the Director of Refining, Office of Petroleum Co-ordinator for War, specifying the petroleum war products the production of which are necessary at stated or maximum rates in District One.

(2) Crude oil supplies currently available to refineries in the East Coast Area shall be assigned to all refineries in this area in such a manner that each refinery will have available, insofar as consistent with subsection 1510.7 (1) hereof, the same percentage of the total available current crude oil supplies as the percentage which such refinery's crude oil runs in the East Coast Area is to the total crude oil runs of all refineries in the East Coast Area during the last six months of 1941.

The plan shall provide that all refineries in the East Coast Area shall produce the maximum quantity of heavy fuel oil and a minimum quantity of motor gasoline insofar as consistent with subsection 1510.7 (1) hereof*.

§ 1510.8 **Crude Oil from East Texas.** In order to increase supplies of crude oil in the East Coast

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says FRANKLIN J. SNYDER, *Manager*, Sweney Super Service,
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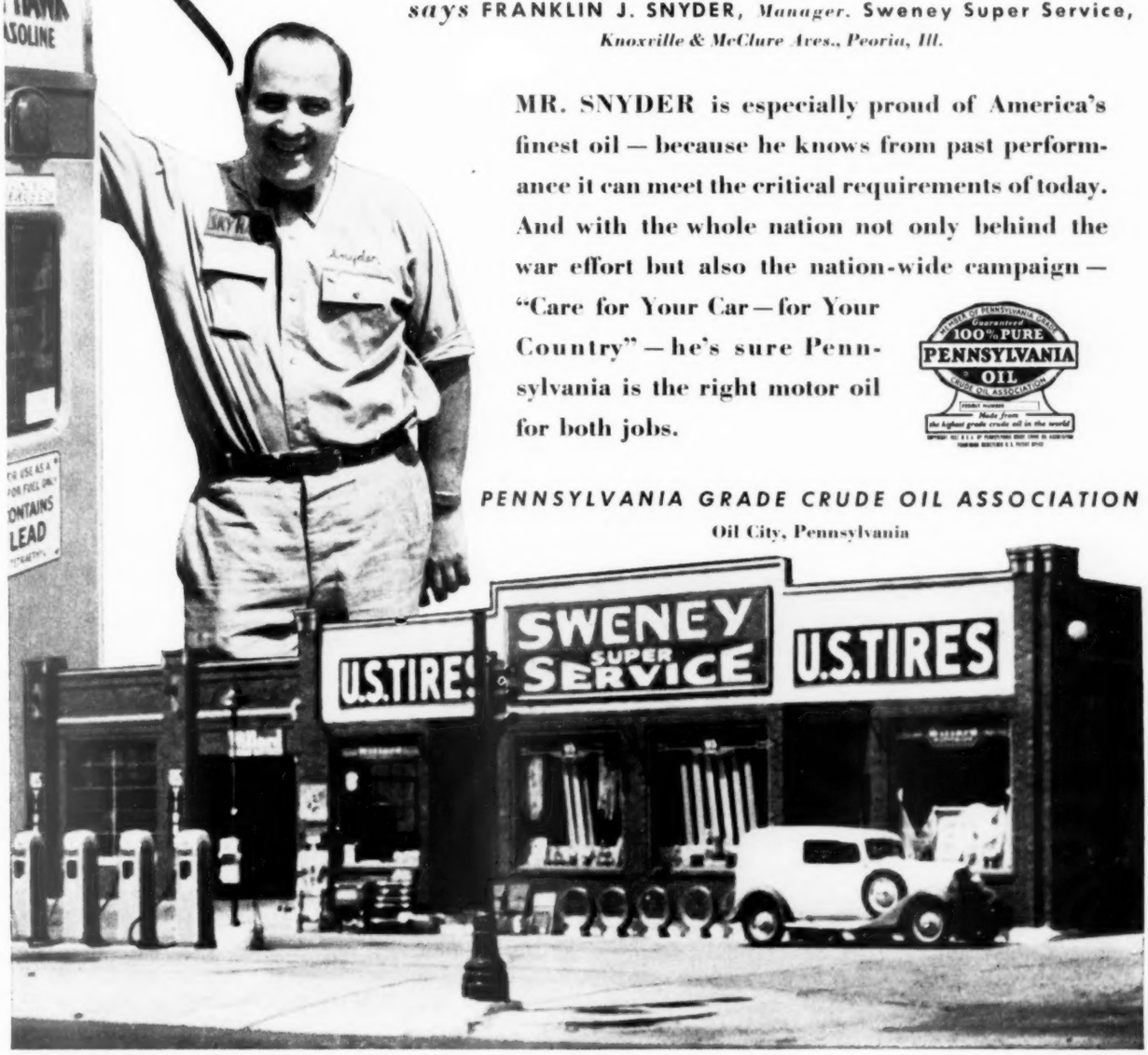

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Area so that a total refinery run of 400,000 barrels per day may be maintained in East Coast refineries and to provide an outlet for East Texas crude oil so that supplies of isobutane required for petroleum war products may be maintained, arrangements shall be made as follows:

(1) The Refining Committee for District One shall arrange for a movement by tank car of 100,000 barrels per day of East Texas crude oil, in addition to that now being so moved, and prepare a monthly schedule of such movements showing specific points of loading.

(2) The Refining Committee for District One, in strict accordance with the provisions of section 1510.7 of this chapter, shall calculate and assign to each refiner in the East Coast Area a proportionate share of the additional crude oil to be brought into the East Coast Area from East Texas, and compile therefrom a monthly schedule showing specific destinations. Each refiner in the East Coast Area shall purchase and bring into District One such proportionate share of such additional crude oil. The Refining Committee for District One shall furnish complete information as to such monthly schedules to the Joint Tank Car Subcommittee for Districts One, Two, and Three.

(3) The Joint Tank Car Subcommittee for Districts One, Two, and Three shall secure the necessary tank cars in accordance with the provisions of § 1510.3 of this chapter and arrange for the use of such tank cars in the service of moving crude oil pursuant to subsection 1510.8 (1) hereof to destinations in the East Coast Area named by the purchasers determined pursuant to subsection 1510.8 (2) hereof*.

§ 1510.9 **Gasoline: Lake Tanker Movement.** In order to increase supplies of motor gasoline moving into District One by lake tanker by at least 10,000 barrels per day in excess of present movements, arrangements shall be made as follows:

(1) The Supplies and Distribution Subcommittee for District Two shall, subject to the direction of the Director of Supply of the Office of Petroleum Co-ordinator for War or of such District Director as he may designate, arrange for purchases, sales, exchanges, and loans of motor gasoline among those engaged in the petroleum industry in District Two so as to make sufficient supplies of motor gasoline of an appropriate quality available for shipment by lake tanker into the Buffalo, New York area of District One and shall notify the Supplies and Distribution Subcommittee for District One of supplies available for such shipment.

(2) The Supplies and Distribution Subcommittee for District One shall notify all primary marketers of motor gasoline in the Buffalo area of the availability of such supplies*.

§1510.10 **Gasoline: Supply Sources of Southeast.** In order to maintain supplies of motor gasoline for the States of Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi (hereinafter referred to as the Southeastern Area) and release tank cars for moving petroleum and petroleum products into the North Atlantic area, the following arrangements shall be made:

(1) The Supplies and Distribution Subcommittee for Districts One and Three shall, subject to the direction of the Director of Supply of the Office of Petroleum Co-ordinator for War or such District Director as he may designate, arrange for purchases, sales, exchanges, and loans of motor gasoline among those engaged in the petroleum industry in Districts One and Three so that the entire supply of motor gasoline for consumption in the Southeastern Area shall be obtained through points of entry on the Mississippi River and the Gulf of Mexico.

(2) The Supplies and Distribution Subcommittee for Districts One and Three shall devise a plan or plans pursuant to Recommendation No. 33, as amended, to accomplish the above objective. Such plan or plans shall include provisions for:

(i) The common use of river and Gulf bulk terminals by all primary suppliers of petroleum products in this area, regardless of ownership of such terminals.

(ii) Limitation on use of pipelines for local distribution purposes to the end that the maximum use of such pipelines shall be made to supply the most northerly and easterly portions of this area.

(iii) Limitation or elimination of the use of tank cars for local distribution of petroleum products within this area*.

§1510.11 **Plan for Florida Movement.** The Supplies and Distribution Subcommittee for District One shall, pursuant to Recommendation No. 33, as amended, devise a plan for the movement of at least 100,000 barrels per day of petroleum and petroleum products, by tanker or barge from the Gulf Coast area of Texas and Louisiana to ports on the West Coast of Florida, thence by tank car to points of distribution in District One or to storage at Norfolk, Virginia, for transhipment by tanker, barge, or other transportation methods to points of distribution in District One. Such plan shall be submitted by such committee to the Chief Counsel of the Office of Petroleum Co-ordinator for War on or before May 15, 1942*.

§ 1510.12 **Effectuating Plans and Schedules.** The committees and subcommittees referred to in §§ 1510.3 to 1510.11, inclusive, of this chapter, and all persons affected by any plan or schedule formulated in accordance with said sections shall, upon the approval of any such plan or schedule by the Chief Counsel of the Office of Petroleum Co-ordinator for War, carry into effect such plan or schedule according to its terms, conditions, and intent*.

§ 1510.13 **Reports.** Each committee or subcommittee affected by this Directive shall file a weekly progress report with the Chairman of the General Committee for the appropriate district. A copy of all reports, schedules, or other documents prepared pursuant to the terms of this Directive shall be forwarded to the appropriate Director in the Office of Petroleum Co-ordinator for War*.

§ 1510.14 **Expenses.** Any expenses incurred by any committee or subcommittee pursuant to the operation of this Directive shall be defrayed by the appropriate General Committee pursuant to the provisions of Recommendation No. 7*.

(Sgd.) R. K. Davies,
Deputy Petroleum Co-ordinator for War.

May 7, 1942.

Throw Out Truck Barriers Or U. S. Will, States Told

NPN News Bureau

WASHINGTON — Federal-State Conference on War Restrictions seemed but a prelude to federal action to abolish state trade barriers if the states themselves do not voluntarily bring truck size-weight, licensing, taxation and other laws into uniformity.

Official announcement by Commerce Department — which sponsored the May 5, 6, 7 gathering—and speeches by ranking government officials all pointed to that one fact.

Even President Roosevelt indicated as much when he said in a letter to the delegates that he called the conference because "much remains to be done before all legal restrictions to the war effort have been eliminated."

Changes Are 'Musts'

While previous conferences of this sort have been little more than speech-making affairs about how nice it would be if there were no such ogre as a trade barrier, high government officials at this meeting last week said restrictive state laws must be changed—and quickly.

Commissioner Thomas H. MacDonald of Public Roads Administration submitted a set of minimum size-weight standards with the recommendation that they be adopted for the duration—and then a group of representatives of Office of Defense Transportation, War Production Board and Public Roads Administration went into huddles with delegates of the several states, meeting separately with them, to canvass ways and means of changing restrictive state measures to conform with those minima.

Minima Suggested

The minima proposed by Mr. MacDonald were these:

Width, 96 in.; height, 12.5 ft.; single unit length, 35 ft.; combination unit length, 45 ft.; weight, 600 lbs. per in. of tire; 1 axle weight, 18,000 lbs.; 2 axle weight, 30,000 lbs.; 3 axle weight, 40,000 lbs.; trailer, semi-trailer weight, 40,000 lbs.; full trailer weight, 40,000.

It was reported that the majority of the state delegates with which individual conferences were held were amenable to the proposed changes, and agreed to recommend them favorably when they returned home, pointing out that they had no authority to bind their states to any agreement they might make at the conference.

4 Steps Proposed

Four possible courses of action to achieve the modifications were suggested by the federal representatives.

They were:

1—waiving of regulations by governors who have emergency powers;

2—repeal, suspension or modification of laws in states where the legislatures are in session;

3—special legislative sessions to change laws or give governors war powers;

4—change administrative order if the regulations resulted from such an order.

Here is a summation of what government leaders had to say:

Defense Transportation Director Eastman: There are special conditions, such as the fact that many legislatures do not meet again until next year, that will hinder voluntary action to change these laws, and federal action is the only alternative.

War Production Board Chairman Nelson: "A great many of these restrictive laws and regulations constitute a form of 'business as usual' which we can no longer put up with."

Commissioner MacDonald: ". . . interference with the reasonable movement of motor carriers should no longer be tolerated."

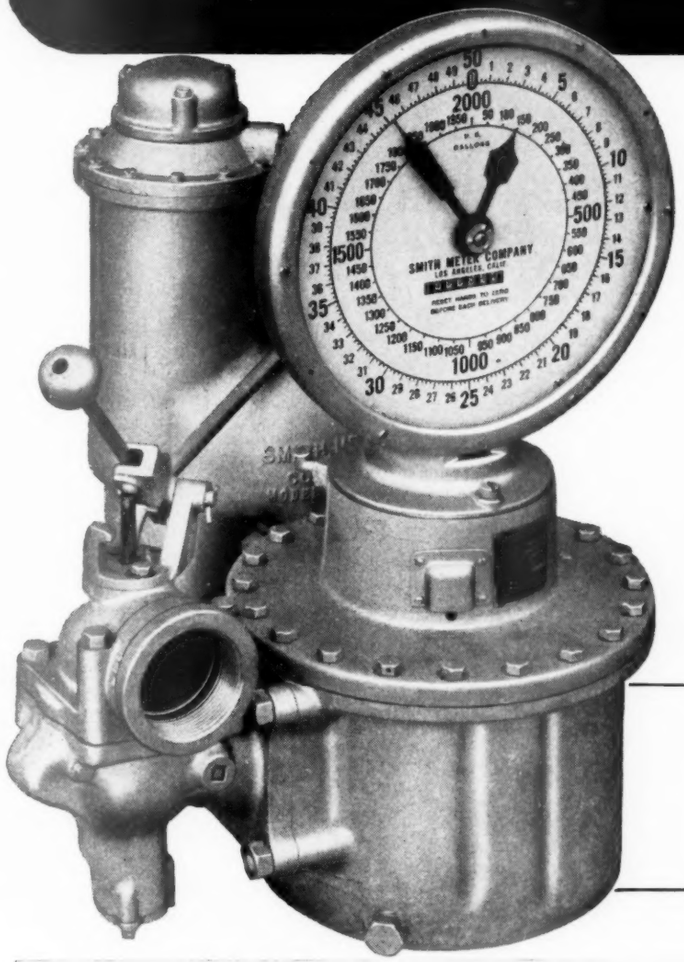
Lt. Gen. Brehon B. Somervell, Commanding Army Services of Supply: The war effort is being cramped on 48 separate fronts. There should be reciprocity on truck regulation, licensing, elimination of unreasonable fees, relaxation of road restrictions, and if in winning the war "a few state regulations . . . have to be stretched, why, I say stretch hell out of them!"

Department of Commerce: "Unless hampering restrictions can be removed through processes open to the states the federal government must take appropriation action in the national interest."

And the delegates quickly took up from there.

Gov. Julius P. Heil of Wisconsin suggested an immediate

WANT FASTEST MOST ACCURATE METERING AT BULK PLANT AND ON TANK TRUCKS?



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For complete information about Smith Meters—available in a full range of sizes for pipe lines as well as for bulk plants and trucks—write to the Smith Meter Company office nearest you.

SMITH TRUCK METER MODEL T-15

Easy to install, easy to service. 2½" pipe tap outlet. Available counter mechanisms range from simple, direct-reading Horizontal Register to Vertical Dial (pictured), Large Numeral Counter, and Ticket Printer combinations, with or without set-stop mechanism.

SMITH METER COMPANY

SUBSIDIARY OF A. O. SMITH CORPORATION

Factories at Los Angeles and Milwaukee

SALES OFFICES AT NEW YORK, CHICAGO, HOUSTON, LOS ANGELES • LOCAL STOCKS AT CONVENIENT POINTS • LOCAL AGENTS IN ALL PRINCIPAL CITIES

conference of all governors to "act and act now" in removing any barriers that hamper movement of war essentials, to which Frank Bane, executive director of Council of State Governments, responded that he had been in touch with the executive committee of the governors conference to accomplish that very purpose.

Jap Evacuation Cited

Maurice Saeta, chairman of California Commission on Uniform Laws, warned that the federal government might not wait until state legislatures act in 1943, and cited the evacuation of the Japanese from the West Coast as indicative of drastic war measures. He said that on one day, the consensus was that nothing could be done about the Jap aliens, but the next day the Army moved in and the Japs started moving out.

Mr. Eastman specifically listed licensing and taxes as forms of truck barriers, declaring:

"Unfortunately—and I think it is well to be entirely frank about this matter—the situation has been affected, at times to a controlling extent, by a factor which has nothing to do with the protection of the public safety or the conservation of highways, and that is the desire of the railroads to limit or embarrass the competition which they encounter from motor trucks and buses . . .

Voluntary, or Else!

"There are two ways of accomplishing, for the 'duration', the relaxation which is so urgently needed. One is by voluntary but prompt action on the part of the states and their authorities, under new state legislation, if necessary. The other is Federal action under the war power of the Constitution."

Mr. Nelson, discussing the various forms of trade barriers the conference talked about such as construction, agriculture and labor restrictions, said "the shortages of gas, rubber and repair parts are going to give our motor transport operators handicaps enough; the very least we can do is make sure that no unnecessary handicaps are added."

Andrews Bill Displayed

Gen. Somervell said Hitler, with his unified system, has none of our contradictory regulations to worry about, and just says "you gotta."

Significantly, the conference was supplied—in quantity—with copies of the Andrews bill (S. 2478) which would give the government authority to set maximum truck sizes and weights and prescribe operating regulations.

Case Histories Given

The conference also was supplied with a 42-page summary of specific cases of "legal obstacles to motor truck transportation in wartime."

These case histories contained one from a petroleum transporter with 23 complete units in Kansas, Colorado, Wyoming, South Dakota and Nebraska, which supplies a federal project in southeastern Colorado, operating over only 60 miles of Colorado highways out of Kansas. According to the summary, this unit is operating at only two-thirds capacity, because it is 1000 lbs. too heavy on a tandem axle set-up.

The company in question has another unit which is 2 ft., 4 in. too long for Colorado, and too many feet between axles for Kansas. It recently started operating from Wyoming to South Dakota, but had to lease equipment because present equipment is too small for South Dakota laws, and new equipment could not be purchased under present conditions.

Size-Weight Hike Urged by Eastman

NPN News Bureau

WASHINGTON—Defense Transportation Director Eastman appears firmly convinced that peacetime restrictions on truck sizes and weights should be removed for the duration.

In addition to his frank statement before trade barrier conference that the only alternative to voluntary state action was federal action, Mr. Eastman disclosed on May 8 that he had again urged voluntary state action the day before in a telegram to the Mississippi Public Service Commission.

Wires Eastman

H. H. Chasteel, chairman of commission, had wired Mr. Eastman as follows:

"Conference of interested parties with our government called for tomorrow relative to relaxing weight limits on motor transportation. If weight limit in your opinion should be increased for the duration, please wire today your views to Mississippi Public Service Commission."

Mr. Eastman sent this reply:

"I consider it a matter of national importance that existing Mississippi limitations on weight and length of motor vehicles be relaxed during the war with necessary safety structure exceptions, to not less than 18,000 pounds one axle, 30,000 pounds two axles, and 40,000 pounds three axles and for tractor-trailer combinations; and that length of combination of tractor-semitrailer be increased to not less than 45 feet. I will greatly appreciate whatever you and other state officials can do to accomplish this result promptly."

ICC CALENDAR On Oil Trucking

George H. Tyler Extension—Petroleum Products—No. MC-39414 (Sub.-No. 1)—On reconsideration, finding in prior report reversed, and operation by applicant as a contract carrier by motor vehicle, of petroleum products, in containers, from North Warren and Bradford, Pa., to points in New York, on or north of U. S. Highway 6, over irregular routes, found consistent with the public interest and the national transportation policy. Permit granted.

* * *

Willard I. Donohoe Contract Carrier Application — No. MC-100810 (Sub.-No. 1)—Operation by applicant as a contract or common carrier by motor vehicle of petroleum products, in bulk, between specified points in Delaware, Maryland, and Virginia, over regular and irregular routes, found not shown to be consistent with the public interest and the national transportation policy or required by the present or future public convenience and necessity. Application denied.

Sees Higher Truck Limits In Mississippi

Special to NPN

JACKSON, Miss.—Representatives of all state departments concerned will meet soon with truckers to discuss matter of hiking Mississippi's size-weight restrictions on motor trucks, and outcome will be reported to Gov. Johnson, according to H. H. Chasteel, chairman of the Mississippi Public Service Commission. Mr. Chasteel, who asked Defense Transportation Director Eastman if he thought Mississippi's limits should be relaxed and got a "Yes" in reply, said he believes Gov. Johnson will proclaim, by executive order, that new limits are necessary and that the order would probably also set the new limits.

Wooden Oil Barges Proposed for Haul Up East Coastline

NPN News Bureau

WASHINGTON — A program for moving 70,000 bbls. daily of heavy oils in wooden barges across Florida and up the Intracoastal Canal—using existing waterways—has been discussed with government officials here.

Plan calls for crossing the lower Florida peninsula, using an existing canal and Lake Okeechobee from Fort Myers to Stuart, Fla., with a minimum 7-foot depth.

With 600 wooden barges of 3000-bbl. capacity and 300 wooden tugboats, 70,000 bbls. of Grade "E" oils (above 150 flash) could be delivered daily with Charleston, S. C., as the average haul. Barges and tugboat hulls would be built in Florida.

Matter has been discussed with Office of Petroleum Coordinator, War Department engineers and Office of Defense Transportation. ODT Director

Rail Hauls to East Shatter All Records

NPN News Bureau

WASHINGTON — Tank car movement eastward for week ended May 2 reached 640,478 bbls. daily, compared with 564,750 bbls. daily the previous week—a drop caused by Southwestern storms—and 599,500 bbls. daily for week ended April 15, according to Office of Petroleum Co-ordinator.

Pacific Northwest shipments were up slightly—29,429 bbls. daily compared with 29,314 bbls. daily the previous week.

In the East Coast movement, 21 companies reported loading 19,926 cars as follows:

Breakdown by Companies

American Mineral Spirits Co., 79; Arkansas Fuel Oil Co., 143; Atlantic Refining, 2766; Jas. B. Berry Sons, Inc., 7; Chalmette Petroleum Co., 16; Cities Service, 982; Conoco, 186; Gulf, 1275; Hartol, 67; Pan American, 1294; Petrol Corp., 957; Sinclair, 1896; Socony-Vacuum, 2373; Kentucky Standard, 139; New Jersey Standard, 3592; Sun Oil, 1099; Texaco, 2033; and Tidewater, 375.

In the Northwest movement, 916 cars were used—compared with 912 previous week—as follows:

General Petroleum, 39; Richfield, 84; Shell, 169; California Standard, 335; Texaco, 54; Tide Water, 137 and Union, 78.

Weapons of War

on the home front

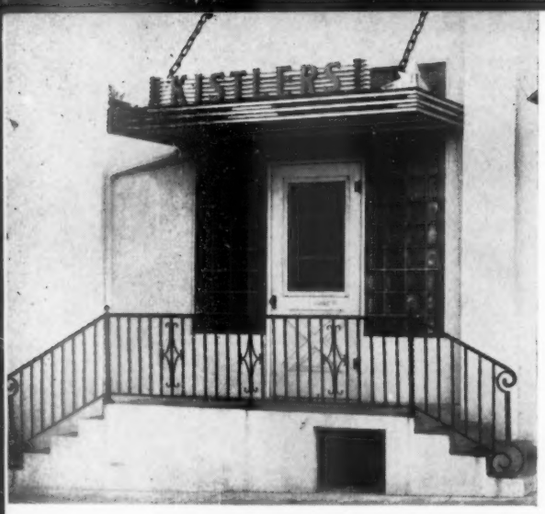
*A.M.** keeps 'em rolling

Tanks, guns, planes and ships are not the only weapons of war! Service tools, inspection instruments, good service shop equipment in the hands of trained mechanics are weapons of war on the home front—weapons essential to Victory! For these are the tools that "keep 'em rolling"—to move men, materials and finished products where they are needed most. *Your* trucks, trailers, buses or trolley buses must be safe-guarded and maintained now, not only to keep your equipment in service and operating costs down, but to keep every piece of equipment in the front line of duty—for Victory! Good A.M. (Axle Maintenance*) is the "ounce of prevention" that will save many a "pound of cure" for vital transportation equipment that must be kept on the job for the duration. Timken has some valuable free A.M. aids for you. Write for them today!

TIMKEN AXLES

THE TIMKEN-DETROIT AXLE CO., DETROIT, MICHIGAN
WISCONSIN AXLE DIVISION, OSHKOSH, WISCONSIN

Timken's Job: To Axe the Axis with Axles



Entrance to "Town Hall"

Fred Kistler, head of the Fred Kistler Oil Co., Inc., Coffeyville, Kans.

'Town Hall Tonight'

Fred Kistler, Kansas Oil Jobber, Builds Hall for Welfare Meetings

Kistler's Town Hall—Sounds like a name for a refreshment center where young folks flock evenings and pop nickels in the "juke box".

In reality, its the name that Coffeyville, Kans., has given the headquarters of an independent oil marketer, the Fred Kistler Oil Co., Inc. The name comes from the fact the headquarters building has a large room on the second floor, which is gladly donated for gatherings that promote the welfare of the community.

The "Town Hall" typifies the character of an oil marketing enterprise which the owner of this business, Fred Kistler, believes independent oil companies are going to find it to their best advantage to run in the future. A business built around serving the needs of the community.

"People are going to learn, through necessary war sacrifices, to depend on their own resources and those of the neighborhood where they live," he said. "Communities, likewise, are going to work on whatever is in the common good. Tire rationing and limitations on use of automobiles may narrow the horizon for people, but they are also going to focus attention on the opportunities for business, social pleasures and recreation close at home.

"The independent oil market is in a good position to make the present times serve him and his business. He has stations in various parts of the community and contacts with people in every section. As he recognizes the problems of the community and works to meet them he and his business will get ahead. Some of these problems will be connected with the distribution of petroleum supplies. For example, if there is rationing of gasoline or heating oil for civilian requirements, or if temporary shortages develop due to transportation difficulties, the independent may be called on to use his best judgment in seeing that essential needs are met first. If specifications for products in general use have to be changed, or other products substituted, the local marketer, who is familiar with the equipment in his territory using such products, should be able to learn from authoritative sources the adjustments needed or equipment for most satisfactory performance and advise his customers.

'Independent Has Advantage'

"The independent, who knows he has to fight his own battles, using his own best judgment, is able to make decisions quickly in his own business, and he should have the advantage over the local representative of the larger companies, who has to consult headquarters of the company before he can make a move.

"Some of the problems that will arise

Headquarters of the Fred Kistler Oil Co., Inc., independent marketer at Coffeyville, Kans., known as "The Town Hall" because of a large room on the second floor use of which is donated for worthy community gatherings

Duty...

In Webster, you'll find duty defined as "That which is required by one's station or occupation."

As one of America's leading manufacturers of petroleum products, Gulf's wartime duty is clear. It is this: To keep on supplying our armed forces and the public, with products that are finer than they need be to do the jobs for which they have been designed.

GULF

GULF OIL CORPORATION • GULF REFINING COMPANY
3800 Gulf Building, Pittsburgh, Pa.

TUNE IN "WE THE PEOPLE" AT WAR. SUNDAY NIGHT 7:30 EWT COLUMBIA NETWORK

OIL IS AMMUNITION **USE IT WISELY !**

Community center for colored people, in Coffeyville, built by the Fred Kistler Oil Co., operation of which is leased out. Included, in addition to the service station, are a confectionery, barber shop, tailor shop and ice and coal depot

This room, in the headquarters building of the Fred Kistler Oil Co., Inc., of Coffeyville, Kans., was installed primarily for the benefit of the community. Use of it is donated. Business conferences and social gatherings of the company are also held here. There is a kitchen at the opposite end of the room

Offices of the Fred Kistler Oil Co. on the first floor of "The Town Hall"

will be matters of public interest in the community, in connection with the civilian defense program. Recreation will become increasingly a matter of community interest, as people use their cars less for purely pleasure driving. The marketer who is willing to work hard these days and do the most he can for his town will find he is getting ahead, regardless of wartimes."

The Kistler oil company has been operating on this principle of serving the community ever since Mr. Kistler started the business 23 years ago, not long after he left the service of Uncle Sam's overseas army in what, until a few months afo, we called the World War.

When his present building was put up, 5 years ago, occupying a downtown block at the same site where he started in business, the second-floor meeting and recreation room was included. The community quickly dubbed it "The Town Hall". This room is 63 by 20 ft., in modern furnishings, with a kitchen at one end where lunches and suppers can be served. The maid from the Kistler home frequently prepares the lunch, sets it out on a serving counter and the guests line up and have their plates filled, army style.

Used for Company Meetings

"The Town Hall" is used for parties for under-privileged boys, for meetings of business men on special projects, for social gatherings for the company's dealers and employes and, when some problem is urgent, the men of the company have lunch there and discuss the matter, instead of going home to eat.

The front of the headquarters building and the adjoining store units are rented to a car dealer. The oil company's offices are downstairs in the rear and back of them is the company garage. The bulk plant in the rear has 80,000 gal. above-ground storage. Elevation of the railroad siding enables the company to unload tank cars and load trucks entirely by gravity.

This same principle in oil marketing of serving the community has been worked out profitably by Mr. Kistler in a service station and center for colored people which he built in Coffeyville 10 years ago. First, he made a survey of the colored section of the town to see what enterprises were needed. The building he put up included, in addition to the service station, a confectionery, tailor shop, barber shop and ice and coal depot. The entire block is leased to a colored man who sublets the individual units. His rental to the oil company is part cash and part based on the gallonage at the station. The enterprise has good support from the 2000 colored population of Coffeyville.

The Kistler oil company markets in a territory within 25 miles radius from Coffeyville and has 15 stations. The personnel includes two girls, five truck salesmen and Mr. Kistler.

Annual Reports Of Oil Companies

Panhandle Producing & Refining Co.

Net earnings of Panhandle Producing & Refining Co. and subsidiary companies after all charges, including federal income and excess profits taxes, for the year ended Dec. 31, 1941, were $288,583.55 equal to 31.87c per share on the 905,407 shares of the company issued and outstanding including the shares held in the treasury for conversion of the old preferred and common shares still outstanding. For the year 1940 the company showed a loss of $31,368.94, and for 1939 a profit of $9,536.66.

Henry W. Wilson, president, in summarizing the outlook states:

"The oil industry has not benefited by an over-all increase in prices. Using 100 as the base index for 1926, oil prices in December 1941 were 59.9 as compared with 92.2 for all commodities. Average crude oil prices in 1941 were $1.12 per barrel compared with $1.11 average for 1936 to 1941, $2.15 for 1917 to 1920, $1.36 for the twenty-five year period 1917 to 1941 and $1.18 for the 83 year period of the industry's history. In the face of this price history the industry has been obliged to meet constantly increasing costs of operation and steadily mounting taxes. An increase in the price of oil products commensurate with the increased cost of finding, producing and refining oil is an economic necessity in order that this indispensable industry be maintained at its highest efficiency and that crude oil reserves be increased so as to prevent any possibility of failure to supply the fullest war needs."

* * *

Gilmore Oil Co.

Gilmore Oil Co., Los Angeles, in their annual report inform their stockholders that the company continued extending holdings in service station locations and buildings during the year and increased the company's investments in that respect by $879,943.30.

Net income before provision for federal and state taxes on income amounted to $1,555,946.28. Four dividends were paid during the year, three in the amount of 25c per share and one at rate of $1.25.

* * *

Honolulu Oil Corp.

Annual report of Honolulu Oil Corp., San Francisco, and subsidiary companies shows a gross income of $4,858,943.45, the largest in the history of the company. After writeoffs for depletion, depreciation and abandonments, the report shows a net income of $1,101,110.73 or $1.17 per share—20c a share greater than in 1940.

* * *

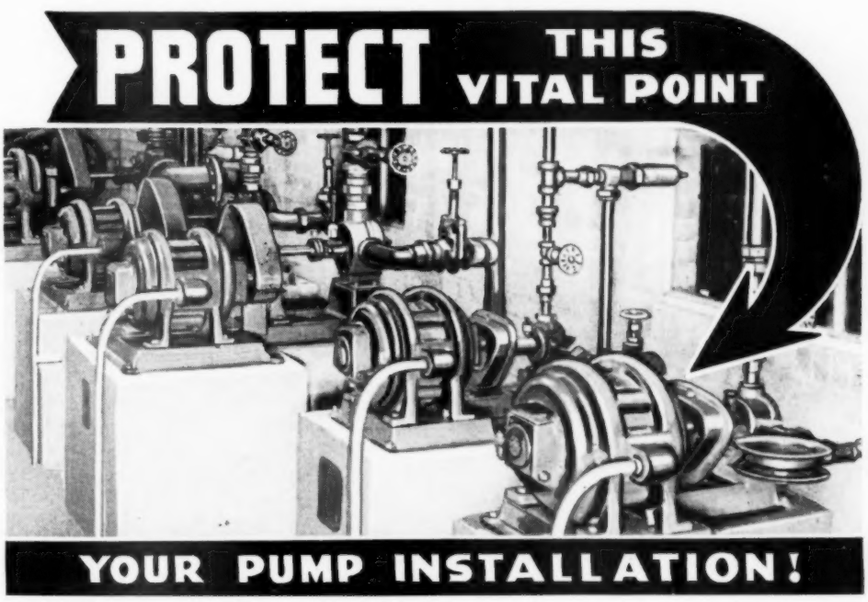
Crown Central Petroleum Corp.

Consolidated profit and loss statement of Crown Central Petroleum Corp. and subsidiaries for 1941 shows a gross operating income of $8,855,953.51. After deduction of depreciation, depletion, amortization and loss of sale and abandonment of capital assets, the profit before taxes on income amounted to $775,880.87. Estimated federal income taxes on income for 1941 was $231,450.62, leaving a net profit of $544,430.25.

Phillips Adds $50,000 To Scholarship Fund

BARTLESVILLE, Okla.—The Frank Phillips Foundation, Inc., created by Frank Phillips, board chairman of Phillips Petroleum Co., has added $50,000 to its educational fund for children of Phillips employes. $66,000 was originally granted in 1939.

Fund is used to give financial assistance to employes' children who would otherwise be unable to secure a college education and this year will provide 12 scholarships instead of 9. Four girls and 8 boys will receive the awards.



Pumps are hard to get. It pays, therefore, to safeguard your pumping equipment as never before . . . to prevent possible delay in War production work.

The Viking Service Manual is offered to you FREE to help you get utmost delivery from your Viking Rotary Pumps. It gives you information on correct installation, how to avoid repairs and replacements. Write for your copy today.

VIKING PUMPS — FIRST IN AMERICA

VIKING Pump COMPANY
CEDAR FALLS, IOWA

NPN's Washington Directory of Oil Agency Headquarters

Following is a partial list and directory of governmental agencies in Washington dealing with matters affecting the oil industry: (List is as accurate as possible but is only tentative as room and phone numbers are constantly changing.)
Abbreviations code: Rm for room; Ex for phone extension.

Office of Petroleum Coordinator

Interior Department (New Building) 18th and C. Sts., N. W., Phone REpublic 1820.

Co-ordinator
Harold L. Ickes, Rm 6156, Ex 5000.

Deputy Co-ordinator
Ralph K. Davies, Rm 6654, Ex 3831.

Assistant Deputy Co-ordinator
Robert E. Allen, Rm 6647, Ex 3334.
George A. Wilson, assistant, Rm 6642, Ex 4898.

Co-ordinator's Staff
3rd and 4th Floors, New Interior Bldg.

Special Assistants
Gordon M. Sessions, Rm 7519, Ex 4446.
J. Elmer Thomas, Rm 7442, Ex 4735.
Howard T. Mather, Rm 6628, Ex 4626.
H. A. Gilbert, Rm 6426, Ex 4838.

Production Division
Donald R. Knowlton, Rm 7410, Ex 4861.
Paul M. Raigorodsky, assistant director, Rm 7423, Ex 4774-2059.
Ralph J. Schilthuis, assistant director, Rm 7410, Ex 2907-4689.

Refining Division
Wright W. Gary, director, Rm 6637, Ex 3233-4644.
Robert B. Cragin, assistant director, Rm 3224, Ex 3237.
Phillip M. Robinson, assistant director, Rm 6644, Ex 4786-87.
Max B. Miller, chief equipment procurement section, Rm 3548, Ex 4560.
C. R. Wagner, chief process development section, Rm 3210, Ex 4619.

Transportation Division
Maj. J. R. Parten, director, Rm 6629, Ex 4418-3329.
R. B. McLaughlin, associate director, Rm 6629, Ex 3557.
Lee R. Cowles, assistant director, Rm 6623, Ex 3658.
Donald A. Sears, chief of pipeline section, Rm 6626, Ex 4833.
Boyd Wilson, chief of tank car section, Rm 6621, Ex 4620.
S. D. Archibold, chief of inland waterways section, Rm 6620, Ex 4333.
W. C. Eberle, chief of marine section, Rm 6622, Ex 4019.
Charles L. Lockett, chief of materials and equipment section, Rm 6624, Ex 4636.
Arch Turner, chief of motor transportation section, Rm 6619, Ex 4300.

Marketing Division
John W. Frey, director, Rm 4258, Ex 4646-7.
Paul A. Best, assistant director, Rm 4258, Ex 3518.
Joseph H. Ellender, chief of motor fuel section, Rm 4256, Ex 4434.
D. C. Arnold, head of asphalt section, Rm 4244, Ex 2787.
Ned F. Foulds, chief of fuel oils section, Rm 4457, Ex 4797.
Howard C. Cooper, chief of lube oils and miscellaneous products, Rm 4247, Ex 4313.

Materials Division
William F. Huff, director, Rm 7314, Ex 4585.
Sturgis Stentz, assistant director, Rm 7314, Ex 4622-23.
Robert Shirk, senior materials analyst, Rm 7314, Ex 2140.

Research Division
Edward B. Swanson, director, Rm 7315, Ex 649.
Oliver S. Ambrose, assistant director, Rm 7317, Ex 4777.

Conservation Division
Everett Lee De Golyer, director, Rm 7514, Ex 4459.

Legal Division
J. Howard Marshall, chief counsel, Rm 6649, Ex 4100.
Robert E. Friedman, associate chief counsel, Rm 6424, Ex 668.
David M. Hudson, associate chief counsel, Rm 6422, Ex 793.

WPB Priority Consultant
O. A. Davis, acting head priority specialist, Rm 7340, Ex 4616-17.

Executive Officer
Stanley W. Crosthwait, Rm 6415, Ex 4363.

Information Division
Herbert A. Yocom, director, Rm 7513-15, Ex 3844, 4650-3844.

Petroleum Supply Division
Robert Lee Minckler, director, Rm 7452, Ex 4834.
R. C. Sauer, assistant director, Rm 7450, Ex 2083.

Facility Security Division
W. D. Mason, director, Rm 3641, Ex 4172.

Foreign Division
James T. Duce, Rm 4442-40, Ex 4417.
Wm. D. Crampton, associate director, Rm 4448, Ex 4788.
C. S. Snodgrass, associate director, Rm 4450, Ex 2968.
Walter R. Lange, tanker co-ordinating expert, Tanker Co-ordinating Board, Rm 7512, Ex 4744-4437.

Receptionist
Mrs. Rosalie E. Reid, Rm 6635, Ex 3429-4820.

Liaison
Gen. Walter B. Pyron
Liaison agent between Army Department and OPC, Phone RE 6700, Ex 6044, Rm 3062, Munitions Bldg., Constitution Ave. between 19th and 21st Sts.

War Production Board

Petroleum Machinery section, Special Industry Machinery Branch—Temporary Bldg. E, 5th Wing—Third Floor, Phone REpublic 7500, Ex 3441.
A. E. Collins, chief, Ex 5741.
John W. Choates, refinery equipment, Ex 72615.
William L. Clark, production machinery, Ex 72615.
E. B. Miller, production and refining equipment, Ex 5751.
M. A. Willner, production and transportation, Ex 72615.

Oil Section—New Social Security Bldg., Rm 4613, Phone REpublic 7500.
Dr. Walter Whitman, petroleum consultant, Rm 3082, Railroad Retirement Bldg., 4th & C St., S. W., Ex 6310.
C. C. Monrad, assistant, Rm 3090 Railroad Retirement Bldg., 4th & C St., SW., Ex 2983.

Office of Price Administration

Temporary D Bldg., 4th and Independence Ave., Phone REpublic 7500.
Leon Henderson, administrator, Rm 46, Ex 5586.
Dr. J. K. Galbraith, staff deputy administrator, Rm 258, Ex 5203.
Dr. George W. Stocking, assistant administrator, fuel division, Rm 245, Ex 72519.
George Doffing, price executive of petroleum section, Rm 236, Ex 5388.
Joseph H. Salmon, associate price executive, Rm 2530, Ex 6376.
Robert Collacott, head of refined products unit, Rm 2705, Ex 6636.
Edward W. Doherty, chief, economic analysis unit, Rm 2721, Ex 6370.
Peter Jensen, business specialist on lubes, fuel oils, asphalt, Rm 2707, Ex 4916.
Harry R. Booth, chief counsel, fuel division, Rm 1604, Ex 6359.
George H. Goss, administrative officer petroleum section, Rm 236, Ex 5389.
Leo Van Herpe, chief of fuel section accounting division, Rm 2215, Ex 5539.
Watson B. Joyes, consultant in crude oil unit, Rm 2717, Ex 4403.
Joel Dean, handling gasoline rationing plans, Rm 1048, Temporary S Bldg., Ex 71322.

U. S. Tariff Commission

7th and F St., N.W., Phone NAtional 3947.
Petroleum Accounting Section
Kenneth Stone, chief, Rm 155, Ex 123.

Office of Defense Transportation

Interstate Commerce Commission Bldg., Constitution Ave. & 12th St., N. W. Phone REpublic 7500.
Joseph B. Eastman, director, Rm 5136, Ex 3527.
Fayette B. Dow, assistant on pipelines, tank cars, tankers and trucks, Rm 5132, Ex 3536.
J. G. Scott, counsel, Rm 5418, Ex 2460.

Motor Transport Division
John L. Rogers, director, Rm 4211, Ex 2297.
Sam F. Niness, chief of petroleum carrier section, Rm 4221, Ex 6351.
W. T. Cumming, chief of vehicle maintenance section, Rm 4211, Labor Bldg., Ex 72731.
T. L. Preble, consultant, vehicle maintenance section, Rm 4215, Labor Bldg., Ex 72775.
Gavin W. Laurie, consultant, vehicle maintenance section, Rm 4215, Labor Bldg., Ex 72775.
R. D. Thomas, chief of tire maintenance section, Rm 4209, Labor Bldg., Ex 71446.
H. H. Kelly, chief of allocation and materials section, Rm 4311 (Labor), Ex 71564.
Leon F. Banigan, assistant to Kelly, Rm 4326, Labor Bldg., Ex 3644.

Congress

Congressional Oil Investigating Committee
Rep. Wm. J. Cole, Jr., chairman, New House Office Bldg., Rm 1535, Ex 699.
Senate Oil Shortage Investigating Committee
Sen. Francis Maloney, chairman, Senate Office Bldg., Rm 354, Ex 1196, Phone NAtional 3120.

Petroleum Industry War Council

William R. Boyd, Jr., chairman, Suite 700B Shoreham Hotel, Phone ADams 1926. Allan H. Hand, secretary-treasurer.

U. S. Maritime Commission

Commerce Department, Phone REpublic 6620.
B. B. Jennings, director of tanker operations, War Shipping Administration, Rm 4309, Ex 87, 88, 89.

Heating Oil Needs Cut by Mild Winter

CLEVELAND—For all sections of the U. S. winter belt, actual heating oil consumption in burners was well under normal for the heating season through March. Also, for all districts except the Pacific Coast requirements were less than for the preceding season. The tables below show actual requirements for March and for the season to April 1 for 27 cities, based on temperature deficiencies in Degree Days.

Table 1—March Heating Oil Requirements in Degree Days

PLACE	March Normal DDS	March '42 ACTUAL DDS	% Above or Below Normal DDS	% Above or Below March '41	% Normal Season's Needs used NORMAL March	% Normal Season's Needs used Mar. '42
NEW ENGLAND (18.4%)						
Portland, Me.	1017	898	—11.70	—23.18	14.58	12.88
Burlington, Vt.	1112	916	—17.63	—28.44	14.85	12.23
Boston, Mass.	911	749	—17.78	—23.65	15.23	12.52
Providence, R. I.	844	718	—14.93	—25.21	14.56	12.39
Hartford, Conn.	866	755	—12.82	—26.91	14.37	12.53
MIDDLE ATLANTIC (36.6%)						
New York City	846	680	—19.62	—25.11	15.99	12.85
Albany, N. Y.	929	836	—10.01	—27.31	14.26	12.83
Rochester, N. Y.	1029	913	—11.27	—25.89	15.47	13.73
Buffalo, N. Y.	1052	893	—15.12	—25.77	15.51	13.17
Trenton, N. J.	781	673	—13.83	—26.45	15.09	13.00
Philadelphia	752	628	—16.49	—26.64	15.43	12.89
SOUTH ATLANTIC (4.5%)						
Baltimore	678	554	—18.29	—28.15	14.77	12.07
Washington	634	545	—14.04	—30.04	13.83	11.89
Richmond	525	490	— 6.67	—31.47	13.74	12.82
CENTRAL (32.8%)						
Cleveland	943	799	—15.27	—25.19	15.35	13.00
Chicago	903	787	—12.85	—22.69	14.16	12.34
Detroit	980	820	—16.33	—23.22	15.18	12.71
Milwaukee	...	...	...	...	...	...
Minneapolis	1082	903	—16.54	—21.14	13.71	11.44
St. Louis	638	558	—12.54	—25.40	13.70	11.98
Des Moines	838	796	— 5.01	—11.36	13.23	12.56
Omaha	851	813	— 4.47	— 6.01	13.66	13.05
Kansas City	684	624	— 8.77	—17.24	13.40	12.22
Denver	794	833	+ 4.91	— 3.59	13.91	14.59
PACIFIC COAST (4.8%)						
Seattle, Wash.	545	566	+ 3.85	+54.22	12.83	15.32
Portland, Ore.	502	528	+ 5.18	+69.23	12.40	15.05
San Francisco	336	305	— 9.23	+47.34	12.50	11.35

Table 2—Season's Heating Oil Requirements to April 1, 1942

PLACE	Sept. 1 to April 1 NORMAL DDS	Sept. 1 to Apr. 1 '42 ACTUAL DDS	% Above or Below Normal Sept. 1-April 1	% Above or Below Sept. 1-Apr. 1 '41 Actual	% Normal Season's Needs—Used NORMAL Sept. 1-Apr. 1	% Normal Season's Needs—Used Sept. 1-Apr. 1 '42	Number DDS in NORMAL Season
NEW ENGLAND							
Portland, Me.	6002	6068	+ 1.1	— 7.67	86.07	87.02	6973
Burlington, Vt.	6573	6490	— 1.26	— 9.16	87.79	86.68	7487
Boston, Mass.	5201	4761	— 8.46	—11.59	86.96	79.60	5981
Providence, R. I.	5025	4735	— 5.77	—10.05	86.70	81.69	5796
Hartford, Conn.	5280	5109	— 3.24	—11.04	87.62	84.78	6026
MIDDLE ATLANTIC							
New York City	4683	4259	— 9.06	—10.99	88.53	80.51	5290
Albany, N. Y.	5734	5748	+ .24	—11.06	88.00	88.21	6516
Rochester, N. Y.	5803	5627	— 3.03	—10.10	87.24	84.59	6652
Buffalo, N. Y.	5792	5452	— 5.87	— 9.54	85.40	80.39	6782
Trenton, N. J.	4570	4315	— 5.58	—12.19	88.28	83.35	5177
Philadelphia	4365	3961	— 9.26	—12.47	89.58	81.28	4763
SOUTH ATLANTIC							
Baltimore	4133	3547	—14.18	—13.59	90.04	77.28	4580
Washington	4129	3648	—11.65	—11.86	90.09	79.60	4583
Richmond	3453	3327	— 3.65	—12.40	90.35	87.05	3822
CENTRAL							
Cleveland	5359	4995	— 6.79	— 5.40	87.22	81.30	6144
Chicago	5553	4944	—10.97	— 8.22	87.06	77.52	6378
Detroit	5671	5181	— 8.64	— 9.88	87.87	80.28	6454
Milwaukee	...	...	...	...	...	...	...
Minneapolis	7060	6157	—12.79	—11.33	89.45	78.01	7893
St. Louis	4266	3873	— 9.21	— 5.63	91.58	83.15	4658
Des Moines	5710	5254	— 7.99	— 4.00	90.12	82.92	6336
Omaha	5657	5306	— 6.21	— .86	90.82	85.18	6229
Kansas City	4665	4149	—11.06	— 6.20	91.40	81.29	5104
Denver	4923	5237	+ 6.38	+12.05	86.25	91.75	5708
PACIFIC COAST							
Seattle, Wash.	3602	3475	— 3.53	+19.09	84.79	81.80	4248
Portland, Ore.	3510	3503	— .20	+19.23	86.73	86.56	4047
San Francisco	2134	1852	—13.22	+23.55	79.42	68.92	2687

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WHILE AMERICA is "canning" the Axis powers, individual oil cans for motorist service are out. Oil drums are back and with them comes the need for faucets.

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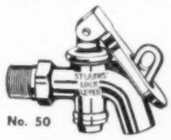
To assure the greatest efficiency in service and the greatest economy in measuring oil, we recommend a choice of No. 50 or No. 60 faucets described below. The No. 60 deserves particular attention. It operates at finger touch and closes automatically as pressure is released.

Use STEARNS FAUCETS

SELF-CLOSING FAUCET No. 60

Close-grained, grey iron faucet, heavily plated inside and out, to prevent corrosion. Guaranteed to hold all petroleum liquids. The valve facing is a special synthetic rubber disc that never needs replacement.

¾" flow. ¾" U.S. Standard Pipe Thread.



LOCK LEVER FAUCET No. 50

A heavily plated grey iron faucet, guaranteed to hold all petroleum liquids. Shuts off flow instantly. The plug is ground to each barrel and a spring washer maintains a tight joint.

¾" flow. ¾" U.S. Standard Pipe Thread.

Your hardware jobber or distributor can supply you Stearns Faucets and Gates.

Write for circular showing all sizes and styles of Stearns Gates and Faucets. Address Dept. N.

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COMING MEETINGS

MAY

Virginia Oil Men's Assn., Spring Meeting, John Marshall Hotel, Richmond, Va., Thurs.-Fri., May 21-22.

Virginia Petroleum Jobbers Assn., Spring Meeting, John Marshall Hotel, Richmond, Va., Thurs., May 21.

National Defense Exposition, Houston, Tex., Mon.-Sun., May 18-24.

Kentucky Oil & Gas Assn., Annual Mid-Year Meeting, LaFayette Hotel, Lexington, Ky., Fri., May 22.

National Assn. of Purchasing Agents, (Oil Company Buyers' Group), Waldorf-Astoria Hotel, New York, N. Y., Mon.-Thurs., May 25-28.

Indianapolis Oil Club, 5th Annual Golf Tournament, Indianapolis, Ind., Thursday, May 28.

JUNE

Illinois-Indiana Petroleum Assn. and American Petroleum Institute, Illinois Basin Chapter, annual meetings combined, Robinson, Ill.,, Sat., June 6.

National Assn. of Tax Administrators, 10th Annual Conference, Hotel Fort Des Moines, Des Moines, Ia., Sun.-Wed., June 7-10.

American Society of Mechanical Engineers, Semi-Annual Meeting, Cleveland, Ohio, Mon.-Thurs., June 8-11.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., June 9.

North American Gasoline Tax Conference, Regional Conference, New York, N. Y., Fri., June 19.

American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J., Mon.-Fri., June 22-26.

New Jersey Oil Trade Assn., Summer Golf Outing, Newark, N. J., Thurs., June 25.

SEPTEMBER

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., Sept. 8.

National Assn. of Assessing Officers, 9th Annual Conference, Cosmopolitan Hotel, Denver, Colo., Wed.-Sat., Sept. 9-12.

New England Tax Conference, Hotel Biltmore, Providence, R. I., Wed.-Thurs., Sept. 30-Oct. 1.

OCTOBER

Texas Mid-Continent Oil & Gas Assn., 23rd Annual Meeting, Dallas, Tex., Thurs.-Sat., Oct. 8-10.

American Society of Mechanical Engineers, Fall Meeting, Rochester, N. Y., Mon.-Wed., Oct. 12-14.

Independent Petroleum Assn. of America, 13th Annual Meeting, Wichita, Kans., Tues.-Thurs., Oct. 20-22.

Indiana Independent Petroleum Assn., Hotel Severin, Indianapolis, Ind., Wed.-Thurs., Oct. 14-15.

National Stripper Well Assn., Annual Meeting, Wichita, Kans., Mon., Oct. 19.

National Tax Conference, Netherlands Plaza Hotel, Cincinnati, Ohio, Mon.-Thurs., Oct. 19-22.

Ohio Petroleum Marketers Assn., Annual Convention and Marketing Exposition, Hotel Deshler-Wallick, Columbus, Ohio, Wed.-Thurs., Oct. 20-21.

National Lubricating Grease Institute, 10th Annual Meeting, New Orleans, La., Sun.-Thurs., Oct. 25-29.

1942 Illinois Mineral Industries Conference, Campus, University of Illinois, Urbana, Ill., Fri.-Sat., Oct. 30-31.

NOVEMBER

American Petroleum Institute, 23rd Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 9-13.

American Institute of Chemical Engineers, 35th Annual Meeting, Netherland Plaza, Cincinnati, O., Mon.-Wed., Nov. 16-18.

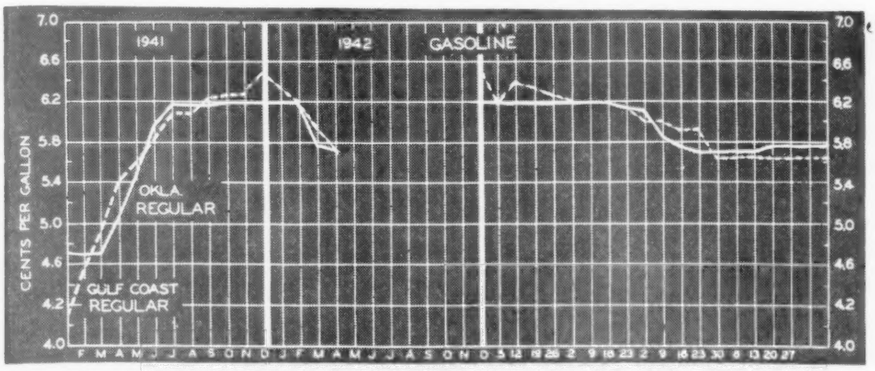
American Chemical Society, National Chemical Exposition and National Industrial Chemical Conference, Stevens Hotel, Chicago, Ill., Tues.-Sat., Nov. 17-21.

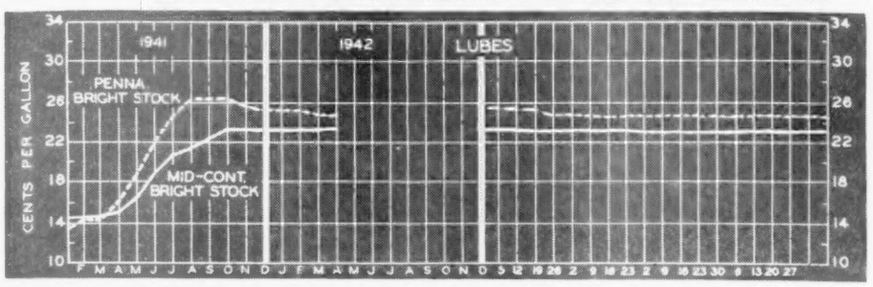
American Society of Mechanical Engineers, Annual Meeting, New York, N. Y., Mon.-Fri., Nov. 30-Dec. 4.

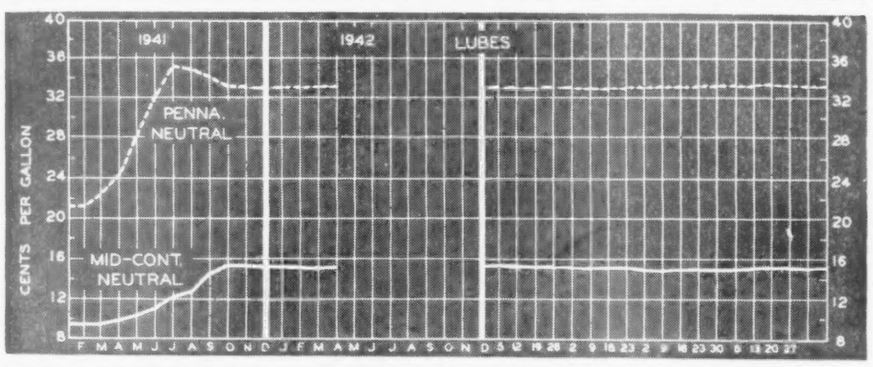
STATISTICS

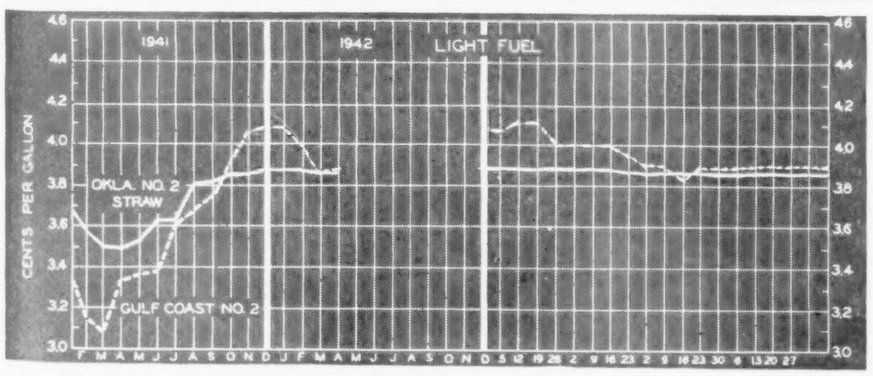
Refinery Prices

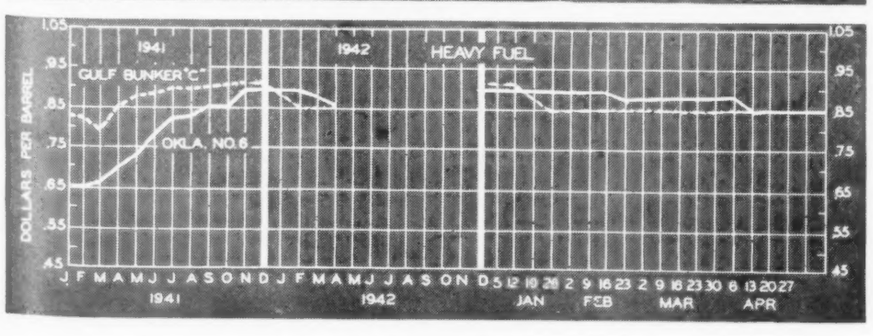
Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram
Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN











Gasoline Consumption by States

(American Petroleum Institute figures in thousands of gallons)

	2 Months Total January-February		% of
	1942	1941	Change
Alabama	52,115	44,819	+16.28
Arizona	19,719	18,837	+ 4.67
Arkansas	33,601	31,144	+ 7.89
California	365,224	304,860	+19.80
Colorado*	.....	.....	.....
Connecticut	59,368	55,102	+ 7.74
Delaware	9,400	8,881	+ 5.84
Dist. of Columbia	13,506	27,621	+ 1.63
Florida	79,881	84,505	— 5.41
Georgia	66,362	66,488	— .19
Idaho	11,792	12,685	— 7.04
Illinois	208,887	213,596	— 2.21
Indiana	108,792	105,368	+ 3.25
Iowa	71,088	71,424	— .47
Kansas	64,875	65,157	— .43
Kentucky	26,505	51,485	—12.11
Louisiana	49,596	46,481	+ 6.70
Maine	21,724	20,171	+ 7.70
Maryland	52,481	48,789	+ 7.57
Massachusetts	107,403	106,097	+ 1.23
Michigan	187,350	186,598	+ .40
Minnesota	75,005	71,062	+ 5.55
Mississippi	40,355	37,050	+ 8.92
Missouri	100,676	105,729	— 4.78
Montana	14,589	15,881	— 8.13
Nebraska	31,639	32,968	— 4.03
Nevada	6,665	5,443	+22.45
New Hampshire	12,959	12,208	+ 6.15
New Jersey	149,256	136,197	+ 9.59
New Mexico	14,483	17,255	—16.07
New York	264,869	272,016	— 2.63
North Carolina	74,366	78,755	— 5.57
North Dakota	15,929	12,220	+30.35
Ohio	226,331	219,657	+ 3.04
Oklahoma*	.....	.....	.....
Oregon	40,257	37,045	+ 8.67
Pennsylvania	233,955	226,063	+ 3.49
Rhode Island	20,907	20,667	+ 1.16
South Carolina	39,709	39,583	+ .32
South Dakota	17,780	16,230	+ 9.55
Tennessee	60,614	55,999	+ 8.24
Texas	290,836	235,048	+23.73
Utah	14,766	14,637	+ .88
Vermont	9,269	9,160	+ 1.19
Virginia	70,271	68,349	+ 2.81
Washington	63,920	55,738	+14.68
West Virginia	34,401	31,771	+ 8.28
Wisconsin	76,751	75,189	+ 2.08
Wyoming	8,347	9,199	— 9.26
Total	3,651,885	3,481,227	+ 4.90
Daily Average	61,896	59,004	

*February figures not available at time of publication, January 1942 consumption: Colorado, 17,229,000 gals., a gain of 5.13% over 1941; Oklahoma, 34,225,000 gals., a gain of 7.99% over 1941.

Oil Burner Statistics

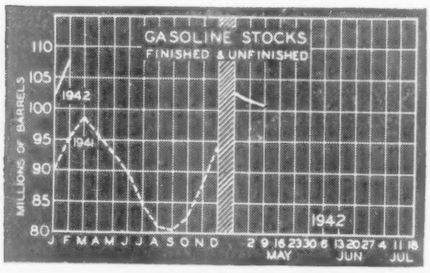
(Compiled by U. S. Bureau of Census. Figures include burners consuming Commercial Standard No. 1 fuel oil or heavier.)

	Mar. 1942	Feb. 1942	Mar. 1941	Feb. 1941
New orders, less cancellations	14,683	16,006	22,013	12,883
Unfilled orders, end of month	16,833	16,428	14,443	2,880
Shipments	14,278	17,996	18,160	12,770
Stocks, end of month	29,896	28,124	22,871	16,775

	3 months total January-March		
	1942	1941	1940
New orders, less cancellations	50,473	56,854	37,230
Shipments	51,527	50,454	37,255

STATISTICS

Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines.


GASOLINE STOCKS
FINISHED & UNFINISHED
MILLIONS OF BARRELS
1942
1941
1942
J F M A M J J A S O N D
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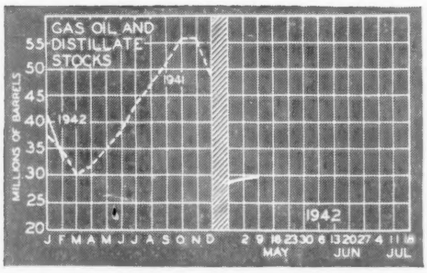
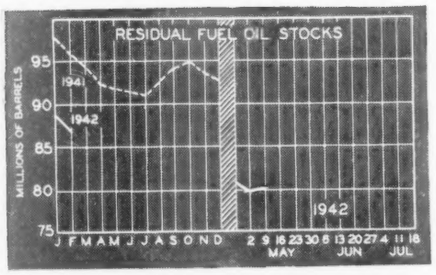
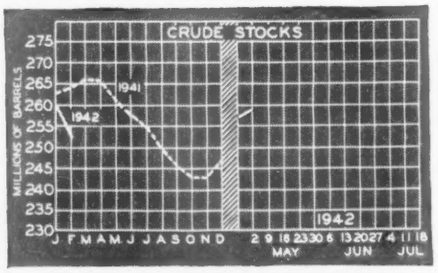
MAY JUN JUL







Refinery Operations

(American Petroleum Institute figures in thousands of barrels of 42 gallons each. Figures include reported totals plus an estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended May 2	Daily Potential Refining Capacity Week Ended Apr. 25	Per Cent of Refining Capacity Reporting Week Ended May 2	Per Cent of Refining Capacity Reporting Week Ended Apr. 25	Daily Average Crude Runs to Stills Week Ended May 2	Daily Average Crude Runs to Stills Week Ended Apr. 25	Per Cent of Reported Capacity Operated Week Ended May 2	Per Cent of Reported Capacity Operated Week Ended Apr. 25
Combined‡	2,383	2,383	87.9	87.9	1,549	1,595	65.0	66.9
Appalacian	174	174	84.5	84.5	160	155	92.0	89.1
Ind., Ill., Ky.	784	784	84.9	84.9	703	712	89.7	90.8
Okla., Kans., Mo.	418	418	81.1	81.1	355	358	84.9	85.6
Rocky Mt.	138	138	50.7	50.7	83	96	60.1	69.6
California	787	787	90.9	90.9	591	590	75.1	75.0
TOTAL U. S.—B. of M. Basis	4,684	4,684	86.9	86.9	3,441	3,506	73.5	74.9
U. S.—B. of M. Basis May 3, 1941					3,772			

‡Includes East Coast, Inland Texas, Texas Gulf, Louisiana Gulf, and North Louisiana-Arkansas Districts.

	Gasoline Production at Refineries Inc. Natural Blended Week Ended May 2	Gasoline Production at Refineries Inc. Natural Blended Week Ended Apr. 25	Stocks of Finished and Unfinished Gasoline Week Ended May 2	Stocks of Finished and Unfinished Gasoline Week Ended Apr. 25	Total Stocks Gas Oil & Distillates Week Ended May 2	Total Stocks Gas Oil & Distillates Week Ended Apr. 25	Total Stocks Residual Fuel Oil Week Ended May 2	Total Stocks Residual Fuel Oil Week Ended Apr. 25
Combined‡	4,366	4,416	45,807	46,694	13,943	13,689	15,694	16,314
Appalachian	501	458	3,995	4,031	382	389	628	641
Ind., Ill., Ky.	2,498	2,432	21,842	22,468	2,558	2,548	3,383	3,452
Okla., Kans., Mo.	1,260	1,273	10,072	10,090	886	893	1,663	1,682
Rocky Mt.	292	300	2,481	2,495	293	271	583	589
California	1,454	1,656	17,179	17,119	11,576	11,450	57,988	58,429
Total U. S.—B. of M. Basis	10,371	10,535	101,376*	102,897†	29,638	29,240	79,939	81,107
U. S.—B. of M. Basis May 3, 1941	12,188		95,823		32,021		91,889	

*Finished 93,803,000 bbls.; Unfinished 7,573,000 bbls. †Finished 95,294,000 bbls.; Unfinished 7,603,000 bbls. ‡Includes East Coast, Texas Inland, Texas Gulf, Louisiana Gulf, and North Louisiana-Arkansas Districts.

Crude Oil Stocks

(Bureau of Mines figures in thousands of barrels)

Grade or Origin	April 18	April 25	May 2	Change from April 25
Pennsylvania grade	3,509	3,510	3,505	— 5
Other Appalachian	1,484	1,379	1,371	— 8
Lima-Michigan	1,650	1,597	1,498	— 99
Illinois-Indiana	18,179	17,697	17,694	— 3
Arkansas	3,079	3,044	3,044	
Kansas	8,125	8,302	8,269	— 33
Louisiana:	13,330	12,997	13,297	+ 300
Northern	4,223	4,230	4,284	+ 54
Gulf Coast	9,107	8,767	9,013	+ 246
Mississippi	2,088	2,002	1,892	— 110
New Mexico	7,298	7,183	6,982	— 201
Oklahoma	49,953	50,101	50,195	+ 94
Texas:	94,238	94,323	95,980	+1,657
East Texas	22,282	22,147	22,101	— 46
West Texas	23,077	23,180	23,582	+ 402
Gulf Texas	25,083	25,414	25,937	+ 523
Other Texas	23,796	23,582	24,360	+ 778
Rocky Mountain	16,218	16,278	16,498	+ 220
California	37,772	37,978	38,129	+ 191
Foreign	649	722	791	+ 69
Total United States Refinable	257,563	257,073	259,145	+2,072
Heavy in California	11,584	11,474	11,404	— 70

N.P.N. Gasoline Index

	Dealer T.W. Cents per Gallon	Tank Car Cents per Gallon
May 11	10.46	6.60
Month ago	10.34	6.45
Year ago	9.49	5.86

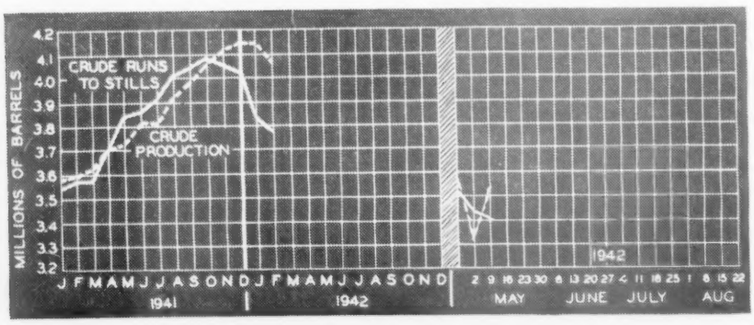
Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston, Gulf Coast.

Pennsylvania Crude Runs

(Compiled by National Petroleum Assn. from reports of all companies which refined Pennsylvania crude. Figures in barrels.)

Week Ended	Daily Average	Week Ended	Daily Average
Jan. 3	72,172	Mar. 14	76,862
Jan. 10	77,676	Mar. 21	79,510
Jan. 17	81,658	Mar. 28	84,185
Jan. 24	84,089	Apr. 4	78,175
Jan. 31	82,603	Apr. 11	82,557
Feb. 7	74,927	Apr. 18	82,067
Feb. 14	77,436	Apr. 25	79,353
Feb. 21	82,682	May 2	80,399
Feb. 28	84,173	1941 Low	61,384
Mar. 7	80,131	1941 High	84,326

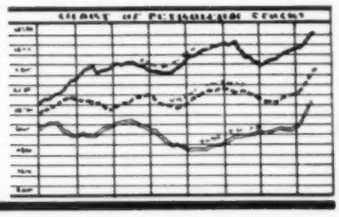

CRUDE RUNS TO STILLS
CRUDE PRODUCTION
MILLIONS OF BARRELS
1942
J F M A M J J A S O N D J F M A M J J A S O N D
1941 1942
2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15 22
MAY JUNE JULY AUG

Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED May 9 Barrels (Daily Average)	WEEK ENDED May 2 Barrels (Daily Average)
Oklahoma	398,950	404,650
Kansas	242,950	255,300
Nebraska	3,750	3,900
Texas	1,075,850	896,500
Louisiana	311,050	314,350
Arkansas	71,100	73,600
Mississippi	89,900	91,250
Illinois	314,700	295,150
Indiana	23,550	20,850
Eastern (Ill. & Ind. excluded)	96,900	103,200
Michigan	64,100	63,200
Wyoming	94,500	90,750
Montana	21,700	21,600
Colorado	6,800	5,250
New Mexico	70,750	73,650
California	657,800	621,800
Total U. S.	3,544,350	3,335,000

Oil MARKETS



Atlantic Coast

NEW YORK, May 9—A number of East Coast suppliers reported reductions of housebrand gasoline ratings from min. 80 oct. (research) to 72-74 oct. (ASTM) basis the past week. One supplier continued to offer min. 80 oct. at New York at 9.8c tank cars, 9.7c barges; and one at Albany at 9.3c, Portland at 9.5c, and Boston and Providence at 9.4c.

At Baltimore, supplier of 72-74 oct. said he now was quoting 8.85c for that grade, down 0.1c. Same supplier withdrew housebrand (74 oct.) quotations at New York, Philadelphia, Norfolk, Wilmington, Charleston, Boston and Providence, saying he had no material to offer at those points.

At Wilmington and Charleston 72-74 oct. was priced 0.325c higher at 8.7 to 8.775c. At Jacksonville, this grade was up 0.125c at 7.875 to 8.4c when supplier who had been quoting 7.75c withdrew his quotation.

Kerosine was priced 0.4c higher at Savannah at 5.65c, and 0.15c higher at Jacksonville at 5.4c following withdrawals of quotations by suppliers out of material at the two points.

Gulf

NEW YORK, May 9.—Cargo market for refined products continued quiet at the Gulf the past week, with shortage of transportation facilities blocking negotiations. Inquiry for cargo of Bunker "C" for prompt lifting was reported.

No refiners reported gasoline commitments with East Coast suppliers and therefore no cancellations as a result of the May 1 OPC request for cessation of shipments of gasoline by tank car to points inside District 1. One company reported stopping gasoline shipments from its own refinery to Baltimore area by which it had been augmenting supplies at that point.

Quotations for cargoes of all products were unchanged.

Pennsylvania

NEW YORK, May 9—Scattered advances in prices were reported in Western Penna. the week ended May 9, with gasoline priced 0.25c higher at 7.25 to 7.75c in the lower field and No. 2 fuel 0.375c higher at 6.5 to 6.725c in the upper field.

Quotations of other refiners were unchanged, with uncertainty expressed over applicability of OPA-approved advances to their territory. Some said they felt advances were justified because of the scarcity of certain products.

Mid-Western

CHICAGO, May 9.—Steady demand for all products was reported by Chicago sellers the past week. Cold snap the middle of week stimulated fuel oil sales. Several refiners reported scarcity of both light and heavy fuels. Open spot sales reported by 4 marketers during the week totaled 10 cars 78 oct. Ethyl, 2 cars at 6.25c, 5 cars at 6.125c, and 2 cars at 6.375c; 12 cars 70-72 oct. at 5.375c; and 2 cars 60 oct. & below at 4.5c, all FOB Group 3.

Refiners group 3 quotations ranged from 6.5 to 6.75c for 78 oct.; 5.5c to 6c for 72-74 oct., and 4.75 to 5.25c for 60 oct. & below. Marketers quotations ranged 6c to 6.375c, 5 to 5.375c and 4.25 to 4.5c for the 3 products, respectively.

Two marketers also sold 2 cars range oil at 4c, and 6 cars No. 3 fuel at 5c, FOB Chicago district refineries.

California

LOS ANGELES, May 10—California gasoline market was steady the past week with third-grade selling at 4.5c, regular at 5.25c, and Ethyl 6.25c. Another independent refiner was said to have shut down for repairs.

Fuel oil remained firm. Heavy oil was $0.80 per bbl., with light fuel at $0.85.

Mid-Continent

TULSA, May 9.—Continued good demand for gasoline was reported by Mid-Continent refiners the past week. Local demand in some areas was slowed by weather, but improved late in the week.

Heavy fuel inquiries were reported by many refiners, both from Eastern buyers and railroads. Stocks were low and closely held with shipments in small quantities to regular customers the general rule. Several refiners said they would supply railroads in preference to other buyers "because they are defense industries, too."

Demand for other refined products was generally heavy, with quotations unchanged. Two refiners said they were sold up on lubes and waxes over balance of May except for small shipments to regular customers.

Index of Governmental Orders Concerning Petroleum Prices

Orders, "requests", "ceilings", and other statements issued by governmental agencies concerning prices of petroleum and products, prices for which are published in this market section of NATIONAL PETROLEUM NEWS, have been published as follows:

	NATIONAL PETROLEUM NEWS	PLATT'S OILGRAM	Platt's OIL-Law-GRAM
Nov. 7, '41—See Jan. 17, '42 below.			
Nov. 10, '41—See Jan. 17, '42 below.			
Nov. 21, '41—Maximum prices for paraffin wax	Nov. 26, pg. 5	Nov. 21, pg. 1	Pg. 66
Nov. 28, '41—See Jan. 17, '42 below.			
Jan. 17, '42—OPA letter restating contents of letters of Nov. 7, 10 and 28, '41;	Jan. 21, pg. 7	Jan. 19, pg. 1	Pg. 135
Jan. 28, '42—Amendment No. 1 to paraffin wax price schedule	Feb. 11, pg. 20	Jan. 29, pg. 1	Pg. 153
Feb. 2, '42—OPA Price Schedule No. 88	Feb. 11, pg. 17	Feb. 4, pg. 1	Pg. 159
Feb. 5, '42—Amendment No. 1 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Feb. 7, '42—Amendment No. 2 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Amendment No. 1 to Revised Price Schedule No. 88 (Combined form of Schedule 88 and its 4 previously issued amendments)	Mar. 11, pg. 15	Mar. 7, pg. 1	Pg. 205
Mar. 25, '42—Maximum prices for Penna. grade crude	Apr. 1, pg. 19	Mar. 25, pg. 1	Pg. 237
Mar. 26, '42 — Maximum s.s. prices for regular-grade gasoline in East Coast & Pacific Northwest	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 243
Mar. 26, '42 — Approval of 0.5c advance in gasoline, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Approval of 0.4c advance in kerosine and light fuels, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Maximum prices for Bunker "C" & No. 6 fuel, East & Gulf Coasts	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 242
Apr. 4, '42—Minimum 3c margin for operators in Curtailment Area	Apr. 8, pg. 3	Apr. 7, pg. 2	Pg. 271
Apr. 4, '42—Prices for crude from wells opened since Oct. 1, '41	Apr. 8, pg. 5	Apr. 6, pg. 1	Pg. 273
Apr. 18, '42 — Price advance for Ritchie, La. crude	Apr. 22, pg. 10	Apr. 20, pg. 2	Pg. 309
Apr. 27, '42—Tank wagon prices: Arkansas, Montana, New Mexico, Oklahoma, Wyoming		Apr. 29, pg. 1	Pg. 353
Apr. 28, '42—East Coast advance effective Apr. 30	Apr. 29, pg. 3	Apr. 29, pg. 1	Pg. 355
Apr. 28, '42—Maximum service station prices	May 6, pg. 12	Apr. 29, pg. 2	Pg. 358

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Summary of Daily Gasoline Prices (May 5 to May 11)

	Monday May 11	Friday May 8	Thursday May 7	Wednesday May 6	Tuesday May 5
U. S. Motor, (ASTM octane)					
78 octane Ethyl:					
Oklahoma	6.375– 6.875	6.375– 6.875	6.375– 6.875	6.375– 6.875	6.375– 6.875
Mid-Western (Group 3 basis)	6.5 – 6.75	6.5 – 6.75	6.5 – 6.75	6.5 – 6.75	6.5 – 6.75
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.5 – 6.625	6.5 – 6.625	6.5 – 6.625	6.5 – 6.625	6.5 – 6.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.625 (2)	6.625 (2)	6.625 (2)	6.625 (2)	6.625 (2)
72-74 octane:					
Oklahoma	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6
Mid-Western (Group 3 basis)	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.5 – 5.75	5.5 – 5.75	5.5 – 5.75	5.5 – 5.75	5.5 – 5.75
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
63-66 octane:					
Oklahoma	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625
Mid-Western (Group 3 basis)	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.1 – 5.125	5.1 – 5.125	5.1 – 5.125	5.1 – 5.125	5.1 – 5.125
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.375 (1)	5.375 (1)	5.375 (1)	5.375 (1)	5.375 (1)
60 octane & below:					
Oklahoma	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
Mid-Western (Group 3 basis)	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.5 – 5	4.5 – 5	4.5 – 5	4.5 – 5	4.5 – 5
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.875– 5	4.875– 5	4.875– 5	4.875– 5	4.875– 5
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2
New York harbor, barges	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2
Philadelphia district	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7
Baltimore district	8.85 – 8.95	8.85 – 8.95	8.95	8.95	8.95
Motor Gasoline:					
Western Penna. Bradford-Warren:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.75–8.45 (2)	7.75–8.45 (2)	7.75–8.45 (2)	7.75–8.45 (2)	7.75–8.45 (2)
Western Penna. Other Districts:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.25 – 7.5	7.25 – 7.5	7.25 – 7.5	7.25 – 7.5	7.25 – 7.5

REFINERY PRICES

Gasoline—U. S. Motor (ASTM) except where otherwise specified

Prices in Effect	May 11	May 4
OKLAHOMA		
78 oct. Ethyl	6.375– 6.875	6.375– 6.875
72-74 oct.	5.5 – 6	5.5 – 6
63-66 oct.	5.125– 5.625	5.125– 5.625
60 oct. & below	4.75 – 5.25	4.75 – 5.25
60-62 400 e.p.	4.875 (1)	4.875 (1)
MID-WESTERN (Group 3 basis)		
78 oct. Ethyl	6.5 – 6.75	6.5 – 6.75
72-74 oct.	5.5 – 6	5.5 – 6
63-66 oct.	5.125– 5.625	5.125– 5.625
60 oct. & below	4.75 – 5.25	4.75 – 5.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	6.5 – 6.625	6.5 – 6.625
72-74 oct.	5.5 – 5.75	5.5 – 5.75
63-66 oct.	5.1 – 5.125	5.1 – 5.125
60 oct. & below	4.5 – 5	4.5 – 5
60-62, 400 e.p.	5 (1)	5 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	6.625 (2)	6.625 (2)
72-74 oct.	5.625– 5.75	5.625– 5.75
63-66 oct.	5.375 (1)	5.375 (1)
60 oct. & below	4.875– 5	4.875– 5
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	6.875 (2)	6.875 (2)
72-74 oct.	5.875 (2)	5.875 (2)
67-69 oct.	5.375 (1)	5.375 (1)
62 oct. & below	5.125 (2)	5.125 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	No Price	No Price
60-62, 400 e.p.	No Price	No Price
KANSAS (For Kansas destinations only)		
78 oct. Ethyl	7.125 (1)	7.125 (1)
72-74 oct.	5.875–6.2 (2)	5.875–6.2 (2)
63-66 oct.	5.5 –5.8 (2)	5.5 –5.8 (2)
60 oct. & below	5.125–5.4 (2)	5.125–5.4 (2)

Prices in Effect	May 11	May 4
ARK. (For shipment to Ark. & La.)		
72-74 oct., leaded	5.875 (1)	5.875 (1)
70-72 oct. "	5.5 (1)	5.5 (1)
62 oct. "	5.125(1)	5.125 (1)
60 oct. & below, unleaded	5 (1)	5 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.75–8.45 (2)	7.75–8.45 (2)
Other districts:		
"Q" Gasoline Min. 70 Oct. (ASTM)	7.25 – 7.5	7.25 – 7.5
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
U.S. Motor: (Oct. ASTM):		
72-74 oct.	8 – 8.5	8 – 8.5
67-69 oct.	7.5 – 7.75 (2)	7.5 – 7.75 (2)
Str. run gasoline, excluding Detroit shpt.	5 – 5.5	5 – 5.5
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	5.25 – 8	5.25 – 8
54-58 grav., for outside state shipment	4.5 – 7	4.5 – 7
54-58 grav., for instate shipment	4.5 – 7	4.5 – 7

Kerosine, Gas & Fuel Oils

Prices in Effect	May 11	May 4
OKLAHOMA		
41-43 grav. w.w	4.375– 4.5	4.375– 4.5
42-44 grav. w.w	4.5 – 4.625	4.5 – 4.625
Range Oil	4 – 4.375	4 – 4.375
No. 1 P.W.	3.875– 4.25	3.875– 4.25
No. 1 straw	3.5 – 4	3.5 – 4
No. 2 straw	3.6 – 4.125	3.6 – 4.125
No. 3 fuel	3.5	3.5
U. G. I. Gas Oil	3.625 (1)	3.625 (1)
No. 6 fuel	$0.80–$0.90 (2	$0.80–$0.90 (2)
14-16 fuel	$0.95 (1)	$0.95 (1)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w	4.375– 4.625	4.375– 4.625
42-44 grav. w.w	4.5 (2)	4.5 (2)
Range Oil	4 (1)	4 (1)
No. 1 p.w.	3.875– 4.125	3.875– 4.125
No. 2 straw	3.6 – 3.625	3.6 – 3.625
No. 3	3.5	3.5
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.80–$0.85 (2)	$0.80–$0.85(2)
N. TEX. (For shpt. to Tex & N. M. dest'ns.)		
41-43 grav. w.w	4.25 – 4.75	4.25 – 4.75
No. 1 P.W.	4.1 –4.2 (2)	4.1 –4.2 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w	No Price	No Price
No. 1 straw	4.3 (1)	4.3 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w	No Price	No Price
42-44 gravity w.w	4.8–4.875 (2)	4.8–4.875 (2)
No. 1 p.w.	4.25– 4.3 (2)	4.25– 4.3 (2)
No. 6 fuel	$0.90 (1)	$0.90 (1)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Kerosine, Gas & Fuel Oil

(Continued)

Prices In Effect	May 11	May 4
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.5 (1)	3.5 (1)
No. 3 fuel	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only.	4.875 (1)	4.875 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6.25 – 6.65	6.25 – 6.65
46 grav. w.w.	....	6.5 (1)
No. 1 fuel	6.5 – 6.65	6.5 – 6.65
No. 2 "	6.5 – 6.725	6.125– 6.725
No. 3 "	6.5 –6.85 (2)	6.5 –6.85 (2)
36-40 gravity	6.25 –6.5 (2)	6.25 –6.5 (2)
Other districts:		
45 grav. w.w.	6.25 – 6.525	6.25 – 6.525
46 grav. w.w.	6.25 – 6.525	6.25 – 6.525
47 grav. w.w.	6.375– 6.65	6.375– 6.65
No. 1 fuel	5.875– 6.25	5.875– 6.25
No. 2 "	5.75 – 6.125	5.75 – 6.125
No. 3 "	5.75 – 6.125	5.75 – 6.125
36-40 grav., Pittsburgh dist. prices excluded	5.75 – 6.125	5.75 – 6.125
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.5 – 6	5.5 – 6
P.W. Distillate	5.5	5.5
No. 3 gas oil, Straw.	5 – 5.3	5 – 5.3
U.G.I. gas oil	4.5 (2)	4.5 (2)
Fuel Oils (Vis. at 100).		
300-500 Vis.	4 (2)	4 (2)
100-300 Vis.	4.5 (2)	4.5 (2)
OHIO (S. O. quotations for statewide delivery)		
Kerosine	7	7
CALIFORNIA		
40-43 grav. w.w.	4.5 – 6	4.5 – 6
San Joaquin Valley:		
Heavy fuel	$0.80 –$0.85	$0.75 –$0.85
Light fuel	$0.85 –$0.95	$0.80 –$0.95
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 5	2.75 – 5
Los Angeles:		
Heavy fuel	$0.80 –$0.85	$0.75 –$0.85
Light fuel	$0.85 –$0.95	$0.80 –$0.95
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 5	2.75 – 5
San Francisco:		
Heavy fuel	$0.90	$0.90
Light fuel	$1.00	$1.00
Diesel fuel	4.5	4.5
Stove dist.	5.5	5.5

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200 and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	40.5 (1)	40.5 (1)
10 p.t.	39.5 (1)	39.5 (1)
15 p.t.	38.5 (1)	38.5 (1)
25 p.t.	33	33
150 Vis. (143 at 100°) 400-405 fl.		
0 p.t.	38.5 (1)	38.5 (1)
10 p.t.	37.5 (1)	37.5 (1)
15 p.t.	36.5 (1)	36.5 (1)
25 p.t.	31	31
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	25	25
600 S.R. filterable	15	15
650 S.R.	15.5	15.5
600 fl.	16	16
630 fl.	17	17
MID-CONTINENT (F. o. b. Tulsa)		
Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)		
Pale Oils:		
Vis. Color		
60-85—No. 2	8	8
86-110—No. 2	8.5	8.5
150—No. 3	14.5	14.5
180—No. 3	15	15
200—No. 3	15	15
250—No. 3	16–16.5	16–16.5
280—No. 3	17	17
300—No. 3	18	18

Lubricating Oils (Cont'd)

Prices In Effect	May 11	May 4
Red Oils:		
180—No. 5	15 (1)	15 (1)
200—No. 5	15 (1)	15 (1)
280—No. 5	No Price	No Price
300—No. 5	17.5 (2)	17.5 (2)

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p.; generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.	23	23
10 to 25 p.p.	22.5–23	22.5–23
25 to 40 p.p.	23 (1)	23 (1)
150-160 Vis. E	22 (2)	22 (2)
120 Vis. D:		
0 to 10 p.p.	22 (2)	22 (2)
600 S.R. Dark Green	8.5 (1)	8.5 (1)
600 S.R. Olive Green	10–11	10–11
631 S.R.	18.5 (1)	18.5 (1)
Black Oil	5.5 (1)	5.5 (1)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100° F.*)		
100 No. 1½-2½	6.5	6.5
200 No. 2-3	8.75	8.75
300 No. 2-3	9.25	9.25
500 No. 2½-3½	10	10
750 No. 3-4	10.25	10.25
1200 No. 3-4	10.375	10.375
2000 No. 4	10.5	10.5
Red Oils:		
100 No. 5-6	6.5 (2)	6.5 (2)
200 No. 5-6	8.75	8.75
300 No. 5-6	9.25	9.25
500 No. 5-6	10	10
750 No. 5-6	10.25	10.25
1200 No. 5-6	10.375	10.375
2000 No. 5-6	10.5–11.5	10.5–11.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis. Color		
60-85—No. 2	9.5 (1)	9.5 (1)
86-110—No. 2	10 (1)	10 (1)
150—No. 3	15.5 (1)	15.5 (1)
180—No. 3	16 (1)	16 (1)
200—No. 3	16 (1)	16 (1)
250—No. 3	17 (1)	17 (1)
Red Oils:		
180—No. 5	16 (1)	16 (1)
200—No. 5	16 (1)	16 (1)
250—No. 5	17 (1)	17 (1)
280—No. 5	18 (1)	18 (1)
300—No. 5	18.5 (1)	18.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks. 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3

Grade 26-70 ..... 2.375 (Sales) 2.25-2.5 (Qtns.)

FOB BRECKENRIDGE

Grade 26-70 ..... 2 –2.25 (Qtns.) 2 –2.25 (Qtns.)

CALIFORNIA (FOB plants in Los Angeles basin)

75-85, 350-375 e.p. for blending	4.75 – 5.375	4.75 – 5.375

Naphtha and Solvent

Prices in Effect	May 11	May 4
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625
WESTERN PENNA.		
Bradford-Warren District:		
Stoddard Solvent	7.5 (1)	7.5 (1)
Other Districts:		
Untreated naphtha	7 (2)	7 (2)
Stoddard solvent	7.25 – 7.75	7.25 – 7.75
OHIO (S. O. quotations for statewide delivery): V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L.)		
122-124 A.m.p.	4.25	4.25
124-126 A.m.p.	4.25	4.25
OKLAHOMA (C.L., FOB Refinery)		
Semi-refined:		
128 AMP min., white, 50 kilo bags	No Price	No Price
132-134 AMP, bbls.	5.25 (1)	5.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.125	5.375– 6.125
Cream White	4.375– 5.375	4.375– 5.375
Light Amber	3.375– 3.875	3.375– 3.875
Amber	3.125– 3.625	3.125– 3.625
Red	3 – 3.5	3 – 3.5

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

(Cents Per Gal.)

	Gasoline Kerosine	*Distillate Fuel Oil	Gas Oil and or Residual Fuel Oil
Chicago, Ill.	2.508	2.508	2.516
Decatur, Ill.	2.244	2.244	2.442
Joliet, Ill.	2.508	2.508	2.516
Peoria, Ill.	2.310	2.310	2.442
Quincy, Ill.	2.178	2.178	2.294
Indianapolis, Ind.	2.640	3.034	3.034
Evansville, Ind.	2.442	2.886	2.886
South Bend, Ind.	3.135	3.135	3.330
Detroit, Mich.	4.290	3.996	3.996
Grand Rapids, Mich.	3.828	3.828	3.922
Saginaw, Mich.	4.290	4.144	4.144
Green Bay, Wis.	2.838	2.838	3.182
Milwaukee, Wis.	2.706	2.706	2.738
La Crosse, Wis.	2.574	2.574	2.886
Minneapolis-St. Paul	2.574	2.574	2.886
Duluth, Minn.	2.838	2.838	3.256
Mankota, Minn.	2.574	2.574	2.886
Des Moines, Ia.	2.046	2.046	2.294
Davenport, Ia.	2.310	2.310	2.442
Mason City, Ia.	2.376	2.376	2.664
St. Louis, Mo.	2.046	2.046	2.072
Kansas City, Mo.	1.518	1.518	1.776
St. Joseph, Mo.	1.518	1.518	1.776
Fargo, N. D.	3.564	3.564	3.996
Huron, S. D.	3.036	3.036	3.330
Wichita			
From Ponca City	0.528	0.528	0.592
From Tulsa	0.858	0.858	0.962
From Cushing	0.792	0.792	0.888

*Not suitable for illuminating purposes.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices In Effect May 11

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	9.8 (1)	9.2 –10.2	9.2 (1)
N. Y. Harb., barges	9.7 (1)	9.1 – 9.2	9.1 (1)
Albany	9.3 (1)	9.3 – 9.5	....
Philadelphia	....	9.2 – 9.7	9.2 (1)
Baltimore	....	8.85 – 8.95	8.85 (1)
Norfolk	....	8.7 – 8.95	8.5 (2)
Wilmington, N. C.	....	8.7 – 8.8	8.4 –8.5 (2)
Charleston	....	8.7 – 8.8	8.1 –8.4 (2)
Savannah	....	8 – 8.9	8 (1)
Jacksonville	....	7.875–8.9	7.875– 8 (2)
Miami	....	8.275–8.9 (2)	7.9 (1)
Tampa	....	7.5 – 8.9	7.875– 8 (2)
Pensacola	....	7 – 7.2 (1)	6.6 –6.8 (1)
Mobile	....	7 – 7.5	6.6 –6.8 (1)
New Orleans	....	6.25 –7.37	....
Portland	9.5 (1)	9.5 – 9.8	....
Boston	9.4 (1)	9.4 – 9.7	9.7 (1)
Providence	9.4 (1)	9.4 – 9.7	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.7	5.8	5.8	$2.10 –2.25 (a)	$1.80
N. Y. Harb., barges	5.6	5.7	5.7	....	....
Albany	5.9	5.9	5.9	$2.40 (1)	$2.00 (1)
Philadelphia	5.8	5.8	5.8	$2.14 (2)	$1.80
Baltimore	5.8	5.8	5.8	....	$1.80
Norfolk	5.7 – 5.8	5.8	5.8 (1)	....	$1.80 (2)
Wilmington, N. C.	5.65	5.8	....	....	....
Charleston	5.8	5.8 (2)	....	....	$1.75 (2)
Savannah	5.65	....	....	....	$1.75 (1)
Jacksonville	5.4 – 5.65	5.35 (2)	5.35 (1)	....	$1.75 (1)
Miami	5.65 (2)	....	....	....	....
Tampa	5.25 – 5.65	5.35 (2)	....	....	$1.70 (1)
Pensacola	4.8 (1)	....	....	....	....
Mobile	4.75	....	....	....	....
New Orleans	4.25 – 4.875	3.75 –3.875 (2)	....	$1.25 (1)	$0.85 (2)
Portland	5.9	5.9	5.9 (2)	$2.40 (1)	$1.80 (2)
Boston	5.8	5.8	5.8 (2)	$2.10 (2)	$1.80
Providence	5.8	5.8	5.8	$2.05 –$2.10	$1.80

(a) This price is for a straight-run, low pour test No. 5 fuel.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.80	$2.402	5.8 –5.9 (2)	5.9 (2)
Albany	$2.00 (1)	$2.602 (1)	5.9 (2)	6.1 (1)
Philadelphia	$1.80	$2.402	....	....
Baltimore	$1.80	$2.402	5.8 (1)	5.8 (1)
Norfolk	$1.80	$2.402	5.8 (1)	5.8 (1)
Charleston	$1.75	$2.402 (2)	5.8 (1)	5.8 (1)
Savannah	$1.75 (1)	$2.242 (1)	....	....
Jacksonville	$1.75 (2)	$2.242-2.247 (2)	....	....
Tampa	$1.70 (2)	$2.242-2.247 (2)	....	....
New Orleans	$0.85	$1.55 (2)	3.75 (1)	3.75 (1)
Portland	$1.80 (2)	$2.502 (2)	5.9 (1)	6 (1)
Boston	$1.80	$2.402	5.8 (2)	5.9 (2)
Providence	$1.80	$2.402 (2)	5.8 (1)	5.9 (1)

Wax

(Melting points are AMP, 3° higher than EMP. Prices are FOB refinery and do not include bag, freight or export differentials).

Prices in Effect May 11

Crude Scale:	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	4.25 (1)	....	4.25 (1)
122-4 White	....	4.25	4.25
124-6 White	4.25 (1)	4.25	4.25
Fully Refined:			
123-5	5.2 (1)	5.2 (2)	5.2 (1)
125-7	5.2 (1)	5.2 (2)	5.2 (1)
128-30	5.6 (1)	5.6	5.6 (1)
130-32	5.85 (1)	5.85 (2)	5.85 (1)
133-5	6.15 (1)	6.15	6.15 (1)
135-7	6.4 (1)	6.4 (1)	6.4 (1)

Naphtha

Prices in Effect May 11

	V.M.&P. Naphtha	Mineral Spirits
New York Harbor	11	10 –11
Baltimore	10.5	9.5 –10.5
Philadelphia district	11	10 –11
Boston	11.5	10.5–11.5
Providence	11.5 (1)	10.5–11.5 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices In Effect	May 11	May 4
375 e.p. blend, 70 oct.	6.375– 6.5	6.375– 6.5
390 e.p. blend, 68 oct.	6.25 – 6.375	6.25 – 6.375
390 e.p. blend, 66 oct.	5.875– 6	5.875– 6
400 e.p. blend, 65 oct. min.	5.875– 6	5.875– 6
U. S. Motor, under 65 octane	5.625	5.625
38-40 grav., w.w. kero., 150 fire point	4.5 – 5	4.5 – 5
41-43 grav., w.w. kero.	4.75 – 5	4.75 – 5
44-grav. w.w. kero.	5 – 5.5	5 – 5.5
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.85 –$0.90	$0.85 –$0.90
In Ship's Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.85 –$0.90	$0.85 –$0.90
Cased Goods: (Per case)		
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
400 e.p. blend, under 65 oct.	$1.40 –$1.50	$1.40 –$1.50
U. S. Motor	$1.35 –$1.45	$1.35 –$1.45
40-43 grav. w.w. kero., 150 fire point	$1.30 –$1.40	$1.30 –$1.40
Kero., p.w.	$1.25 –$1.35	$1.25 –$1.35

Tanker Rates

(Approximate last paid rates, cents per bbl.; Gulf-N. Atlantic, not East of N. Y.)

Hvy. Crude & Fuel (10 to 19.9 gravity)	48
Light Crude, (30 grav. or Lighter)	43
Gasoline	40
Kerosine	40
No. 2 Fuel	42

Note: 200% *surcharge permitted on above rates by War Shipping Administration "to cover increased wartime operating expenses."*

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices In Effect May 11

Domestic

Motor Gasoline	
Min. 80 oct. '39 Research, max. 2cc lead	5.5
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.25 – 6
70 oct. unleaded " "	5.25 – 5.75
68 oct. " "	5.25 – 5.875
65 oct. " "	5.25 – 5.75
60 oct. " "	5
41-43 w.w. kerosine	3.875– 4.375
No. 2 fuel	3.75 – 4
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25
Diesel Oil, ship's bunkers (ex-lighterage)	$1.55–$1.68
Bunker C, " " "	$0.85–$0.95
Bunker C, cargoes	$0.85

Export

Motor Gasoline	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.25 – 6
70 oct. unleaded " "	5.25 – 5.75
68 oct. " "	5.25 – 5.875
65 oct. " "	5.25 – 5.75
60 oct. " "	5
41-43 w.w. kerosine	3.875– 4.375
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

May 11

	Steel Drums	Bulk
200 vis. D 210 brt. stock	34–35 (2)	28.8 (2)
150 vis. D 210 brt. stock 0-10 p.p.	30-31 (2)	24.8 (2)
10-25 p.p.	29.5 (1)	24.3 (1)
100 vis. D 210 brt. stock 0-10 p.p.	29.5 (1)	24.3 (1)
10-25 p.p.	29 (1)	23.8 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	22 (1)	16.8 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals)

Unfiltered Pale Oils: Vis. Color	May 11	May 4
100 No. 3	6.25 (1)	6.25 (1)
200 No. 3	7.75 (1)	7.75 (1)
300 No. 3	8.25 (1)	8.25 (1)
500 No. 3½	9.25 (1)	9.25 (1)
750 No. 4	9.75 (1)	9.75 (1)
1200 No. 4	10.25 (1)	10.25 (1)
2000 No. 4	....	....
Red Oils:		
Vis. Color		
100 No. 5-6	....	....
200 No. 5-6	7.75 (1)	7.75 (1)
300 No. 5-6	8.25 (1)	8.25 (1)
500 No. 5-6	9.25 (1)	9.25 (1)
750 No. 5-6	9.75 (1)	9.75 (1)
1200 No. 5-6	10.25 (1)	10.25 (1)
2000 No. 5-6	11 (1)	11 (1)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 11, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	10.2	10.7	4.5	8.3
*Newark, N. J.	10.2	10.7	4.5	8.3
Annapolis, Md.	10.55	11.05	5.5	10.1
Baltimore, Md.	9.95	10.45	5.5	9.1
Cumberland, Md.	11.35	11.85	5.5	10.6
Washington, D. C.	10.2	10.7	4.5	9.6
Danville, Va.	11.65	12.15	6.5	10.85
Norfolk, Va.	10.45	10.95	6.5	10.6
Petersburg, Va.	10.75	11.25	6.5	11.6
Richmond, Va.	10.75	11.25	6.5	11.6
Roanoke, Va.	11.95	12.45	6.5	11.1
Charleston, W. Va.	12.25	12.75	6.5	11.9
Parkersburg, W. Va.	11.55	12.05	6.5	11.6
Wheeling, W. Va.	11.55	12.05	6.5	12.2
Charlotte, N. C.	12.1	12.6	7.5	9.9
Hickory, N. C.	12.65	13.15	7.5	10.9
Mt. Airy, N. C.	12.5	13.0	7.5	10.1
Raleigh, N. C.	11.85	12.35	7.5	10.9
Salisbury, N. C.	12.15	12.65	7.5	11.3
Charleston, S. C.	10.95	11.45	7.5	....
Columbia, S. C.	11.8	12.3	7.5	....
Spartanburg, S. C.	12.5	13.0	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	13	14.5
Baltimore, Md.	15.5	....
Washington, D. C.	15.5	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	8.3	7.8	7.8
Newark	8.3	7.8	7.8
Annapolis, Md.	....	8.05	....
Baltimore	8.1	7.8	7.8
Washington, D. C.	8.6	8.2	8.2
Norfolk, Va.	8.3	7.6	7.6
Petersburg	8.6	7.8	....
Richmond	8.6	7.8	7.8
Charlotte, N. C.	8.9	9.2	....
Hickory	....	8.8	....
Raleigh	9.9	8.9	....
Charleston, S. C.	....	7.8	....
Columbia	....	8.8	....
Spartanburg	....	9.6	....

*Effective Apr. 30, '42, minimum retail resale price of 14.2c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gasoline Taxes
New York City			
Manhattan & Bronx	10.1	10.6	*5.5
Kings & Queens	10.1	10.6	*5.5
Richmond	9.7	10.2	*5.5
Albany, N. Y.	9.9	10.4	5.5
Binghamton, N. Y.	11	11.5	5.5
Buffalo	10.2	10.7	5.5
Jamestown, N. Y.	10.4	10.9	5.5
Mt. Vernon, N. Y.	10.1	10.6	5.5
Plattsburg, N. Y.	11	11.5	5.5
Rochester, N. Y.	10.8	11.3	5.5
Syracuse, N. Y.	10.5	11	5.5
Bridgeport, Conn.	10	10.5	4.5
Danbury, Conn.	10.5	11	4.5
Hartford, Conn.	10.6	11.1	4.5
New Haven, Conn.	10	10.5	4.5
Bangor, Me.	10.7	11.2	5.5
Portland, Me.	10.3	10.8	5.5
Boston, Mass.	9.9	10.4	4.5
Concord, N. H.	11.4	11.9	5.5
Lancaster, N. H.	12	12.5	5.5
Manchester, N. H.	11.3	11.8	5.5
Providence, R. I.	10	10.5	4.5
Burlington, Vt.	10.9	11.4	5.5
Rutland, Vt.	11	11.5	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	12.8	14
New York City	11.4	12.4
Rochester, N. Y.	13.6	14.8
Syracuse, N. Y.	14.4	....
Boston, Mass.	12.4	13.4
Bridgeport, Conn.	†16.7	†17.7
Hartford, Conn.	†16.7	†17.7
Providence, R. I.	13.4	14.4

	Kerosine Yard	Kerosine TW	Mobilfuel Diesel TC	Mobilfuel Diesel TW	Mobilheat Fuel Yard	Mobilheat Fuel TW
New York:						
Manhat'n & Bronx	6	8.4	....	8.1	6.1	7.8
Kings & Queens	6	8.4	....	8.1	6.1	7.8
Richmond	5.9	8.4	....	....	6	7.6
Albany	6.1	8.1	6.1	8.1	6.1	7.8
Binghamton	7.5	9.5	....	9.5	7.5	9
Buffalo	7.2	9.2	7.3	9.3	7.3	8.8
Jamestown	7.3	9.3	....	9.4	7.4	8.8
Mt. Vernon	6.1	8.6	....	8.2	6.2	7.8
Plattsburg	6.7	8.7	....	8.7	6.7	8.2
Rochester	7.3	9.3	7	9	7	8.5
Syracuse	7.1	9.1	6.9	8.9	6.9	8.4
Conn.:						
Bridgeport	6.2	....	....	....	6.3	7.6
Danbury	6.7	....	....	....	6.6	7.6
Hartford	6.3	....	....	8.3	6.3	7.8
New Haven	6	....	....	8.1	6.1	7.7
Maine:						
Bangor	6.5	8.5	6.5	8.5	6.5	7.9
Portland	6.1	8.5	6.1	8.1	6.1	7.8
Mass.:						
Boston	6.2	8.4	6	8	6.2	7.8
N. H.:						
Concord	7	9	....	....	7.3	8.8
Lancaster	8.1	10.1	....	....	8.3	9.8
Manchester	7.1	9.4	....	....	7	8.5
R. I.:						
Providence	6.2	8.2	6	8	6.2	7.7
Vermont:						
Burlington	6.7	....	6.6	8.6	6.6	8
Rutland	6.9	....	....	8.8	6.8	8.3

*Does not include 1% city sales tax appucable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.W.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	10.2	10.7	5.5	10.55
Pittsburgh	10.7	11.2	5.5	10.9
Allentown	10.7	11.2	5.5	10.9
Erie	10.7	11.2	5.5	10.9
Scranton	10.7	11.2	5.5	10.9
Altoona	10.7	11.2	5.5	10.9
Emporium	10.7	11.2	5.5	10.9
Indiana	10.7	11.2	5.5	10.9
Uniontown	10.7	11.2	5.5	10.9
Harrisburg	10.7	11.2	5.5	10.9
Williamsport	10.7	11.2	5.5	10.9
Dover, Del.	....	11.2	5.5	10.9
Wilmington, Del.	....	10.7	5.5	10.4
Boston, Mass.	....	10.9	4.5	8.4
Springfield, Mass.	....	11.8	4.5	9.3
Worcester, Mass.	....	11.5	4.5	8.9
Fall River, Mass.	....	11	4.5	9.0
Hartford, Conn.	....	11.6	4.5	8.3
New Haven, Conn.	....	11	4.5	9.4
Providence, R. I.	....	11	4.5	9
Atlantic City, N. J.	....	10.7	4.5	8.3
Camden, N. J.	....	10.7	4.5	8.3
Trenton, N. J.	....	10.7	4.5	8.3
Annapolis, Md.	....	11.05	5.5	9.1
Baltimore, Md.	....	10.45	5.5	8.1
Hagerstown, Md.	....	11.55	5.5	8.6
Richmond, Va.	....	11.25	6.5	10.6
Wilmington, N. C.	....	11.55	7.5	10.2
Brunswick, Ga.	....	10.4	7.5	*9.4
Jacksonville, Fla.	....	9.4	8.5	10.4

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	11.5	13
Lancaster, Pa.	12.5	14
Pittsburgh, Pa.	13	14

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8.4	7.8	7.8	5.82	4.82
Allentown, Pa.	8.9	8.1	8.1	....	....
Wilmington, Del.	8.4	7.8	7.8	....	....
Springfield, Mass.	9.3	8.2	8.2	....	....
Worcester, Mass.	8.9	8.1	8.1	....	....
Hartford, Conn.	8.3	7.8	7.8	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio††

***Sohio X-70 Gasoline**
(*Regular Grade*)

	Consumer T.W.	**Resellers	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	12	10	13.5	5.5	9
Akron	12	9.5	12.5	5.5	9
Cincinnati	12	9.5	12.5	5.5	9
Cleveland	12	9.5	12.5	5.5	9
Columbus	12	9.5	12.5	5.5	9
Dayton	12	9.5	12.5	5.5	9
Marietta	12	9.5	12.5	5.5	9
Portsmouth	12	9.5	12.5	5.5	9
Toledo	12	9.5	12.5	5.5	9
Youngstown	12	9.5	12.5	5.5	9

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 73 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

†Naphtha—T.W.

	Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8	8	7.5	....
Cleveland	10	10	9.5	7.25

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	9.5	8.5	6.5	9
Lexington, Ky.	11	8.5	6.5	9
Louisville, Ky.	10.5	9.5	6.5	8.5
Paducah, Ky.	8	8	6.5	8.5
Jackson, Miss.	10.5	9.5	7.5	*8.5
Vicksburg, Miss.	10	9	7.5	*8
Birmingham, Ala.	10.5	9.5	*8.5	9
Mobile, Ala.	9.5	7.5	*9.5	8.5
Montgomery, Ala.	10.5	9.5	*9.5	*9
Atlanta, Ga.	10	....	7.5	*9
Augusta, Ga.	11	....	7.5	*8.5
Macon, Ga.	11	....	7.5	*8.5
Savannah, Ga.	10	....	7.5	*8
Jacksonville, Fla.	10	9	8.5	8
Miami, Fla.	10	9	8.5	8
Pensacola, Fla.	9.5	8.5	*9.5	8
Tampa, Fla.	10	....	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)
Dealer Prices

	Red Crown Cons. T.W	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	10.9	8.9	8.4	4.5	10.3
Decatur, Ill.	10.9	8.9	8	4.5	9.5
Joliet, Ill.	11.9	9.6	8.5	4.5	10.3

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 24 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 11, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)

Dealer Prices

	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gaso-line Taxes	Kero-sine T.W.
Peoria, Ill.	10.7	9.2	9.1	4.5	10.1
Quincy, Ill.	8.9	7.9	7.9	4.5	10
Indianapolis, Ind.	11.6	9.7	9.6	5.5	*9.8
Evansville, Ind.	11.4	9.9	7.9	5.5	*9.6
South Bend, Ind.	12	10.5	10	5.5	*10.2
Detroit, Mich.	11.4	9.9	9.4	4.5	9.6
Grand Rapids, Mich.	11.4	9.3	9	4.5	9.6
Saginaw, Mich.	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis.	12.2	10.7	9.7	5.5	10.6
Milwaukee, Wis.	12.1	10.6	10.1	5.5	10.5
La Crosse, Wis.	11.9	10.4	9.9	5.5	10.3
Minneapolis-St. Paul	11.9	9.9	9.5	5.5	10.3
Duluth, Minn.	12.2	10.7	10.2	5.5	10.6
Mankato, Minn.	11.9	10.4	9.5	5.5	10.3
Des Moines, Ia.	11.4	9.9	9.4	4.5	*9.8
Davenport, Ia.	11.7	10.2	9.7	4.5	*10.1
Mason City, Ia.	11.7	10.2	9.7	4.5	*10.1
St. Louis, Mo.	10.3	8.8	8.6	*4.5	9.8
Kansas City, Mo.	10.4	8.9	7.9	*4.5	9.4
St. Joseph, Mo.	11	9	8	*4.5	9.6
Fargo, N. D.	12.9	11.4	10.5	5.5	11.3
Huron, S. D.	12.3	10.8	10.3	5.5	10.7
Wichita, Kans.	10.3	8.2	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill.	15.7	4.5
Milwaukee, Wis.	15.9	5.5
Minneapolis, Minn.	15.7	5.5
St. Louis, Mo.	15.2	*4.5
Kansas City, Mo.	14.8	*4.5
Fargo, N. D.	16.7	5.5
Huron, S. D.	16.1	5.5

	Oleum Spirits	V.M.&P. Naphtha	Stani-sol	*Taxes
	(Prices are base prices before discounts)			
Chicago,	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo.	13.3	14.3	13.8	1.5
St. Louis, Mo.	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minneap'lis	14.2	15.2	13.5	5.5

Fuel Oils T. W.

Chicago	Standard Heater Oil
1-99 gals.	9
100-149 gals.	8
150 gals. & over	7.5

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals.	8.5	8.5
100-149 gals.	7.5	7.5
150-399 gals.	7.5	7.5
400 gals. & over	7	7

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals.	8	8
100-399 gals.	7	7
400-749 gals.	6	6
750 gals. & over	5.25	5.25

	Stanolex Bunker C Fuel Oil
1-399 gals.	6.5
400-999 gals.	5.5
1000 gals. & over	4.5

Other Points: Indianapolis	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals.	....	*8.7
100 gals. & over	....	*7.7
Detroit		
1-99 gals.	....	7.8
100 gals. & over	....	6.8
Milwaukee		
1-99 gals.	....	8.7
100 gals. & over	....	7.7
Minneapolis		
1-99 gals.	....	8.5
100 gals. & over	....	7.5
St. Louis		
1-99 gals.	8.3	7.8
100 gals. & over	7.3	6.8
Kansas City		
1-99 gals.	....	7.6
100 gals. & over	....	6.6

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

(*Regular Grade*)

	T.W. Dealer	Gaso-line Taxes	Kero-sine T.W.
Omaha	11.4 8.9	6.5	9.8
McCook	10.5 9.4	6.5	9
Norfolk	11.9 10.4	6.5	10.3
North Platte	11 9.9	6.5	10
Scottsbluff	12.4 9.5	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
New Orleans, La.	8.75	9.25	8.5	*9
Baton Rouge, La.	8.75	9.25	8.5	*9.5
Alexandria, La.	8.75	9.25	8.5	*9.5
Lafayette, La.	9	9.5	8.5	*9
Lake Charles, La.	9	9.5	8.5	*11
Shreveport, La.	8.5	9	8.5	*8
Knoxville, Tenn.	11.5	12	8.5	12.5
Memphis, Tenn.	8.75	9.25	8.5	10.5
Chattanooga, Tenn.	10.5	11	8.5	11
Nashville, Tenn.	10.5	11	8.5	10
Bristol, Tenn.	10.95	11.45	8.5	12
Little Rock, Ark.	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Re-tail	Thriftane *Tank Wagon	Thriftane Re-tail	Gaso-line Taxes
Dallas, Tex.	8.5†	10.5	7.5†	8.5	5.5
Ft. Worth, Tex.	8.5††	10.5	7.5‡	9	5.5
Houston, Tex.	8.5	12.5	7.5	10.5	5.5
San Antonio, Tex.	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex.	7	11
Ft. Worth, Tex.	7	11
Houston, Tex.	8	11
San Antonio, Tex.		10

	Tank Car
74 Oct. Aviation Gasoline, Clear FOB Baytown, Tex.	8.5

*To all classes of dealers & consumers.
†Less 1c allowance to dealers only.
‡Less 1½c allowance to dealers only.
††Less 2c allowance to dealers only.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gaso-line Taxes
Dallas, Tex.	8.5*	7.5*	5.5
Ft. Worth, Tex.	8.5*	7.5*	5.5
Wichita Falls, Tex.	8.5	7.5	5.5
Amarillo, Tex.	8.5	7.5	5.5
Tyler, Tex.	8.5*	7.5*	5.5
El Paso, Tex.	9.5	8.5	5.5
San Angelo, Tex.	8.5	7.5	5.5
Waco, Tex.	8.5*	7*	5.5
Austin, Tex.	8.5	7.5	5.5
Houston, Tex.	8.5	7.5	5.5
San Antonio, Tex.	8.5	7.5	5.5
Port Arthur, Tex.	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

Continental Oil Co.

(N.B. Prices are Continental's "structural" prices. Prices do not reflect temporary reductions made to meet local competition).

	Conoco Bronz-z-z (*Regular*) †Tank	De-mand (*3rd Grade*) Wagon	Gaso-line Taxes	Kero-sine T.W.
Denver, Col.	11	10	5.5	11
Grand Junction, Col.	12	11	5.5	12
Pueblo, Col.	10.5	9.5	5.5	10.5
Casper, Wyo.	11.5	10.5	5.5	12
Cheyenne, Wyo.	11	10	5.5	11.5
Billings, Mont.	12.5	11.5	6.5	12.5
Butte, Mont.	13.5	12.5	6.5	13.5
Great Falls, Mont.	12.5	11.5	6.5	12.5
Helena, Mont.	13	12	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida.	14.1	13.1	6.5	16.5
Twin Falls, Ida.	15.6	14.6	6.5	17
Albuquerque, N. M.	10.5	9.5	*7	10
Roswell, N. M.	10	9	*7	9.5
Santa Fe, N. M.	10.5	9.5	*7.5	10
Ft. Smith, Ark.	9.5	9.25	*7	9.5
Texarkana, Ark.	9	8	*5.5	9
Muskogee, Okla.	9.5	8.5	7	8.5
Oklahoma City, Okla.	9.5	8.5	7	8.5
Tulsa, Okla.	9.5	8.5	7	8.5

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state applies within city limits of Ft. Smith, Ark.

†To consumers & dealers.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Posted Re-tail	Flight Posted Net Tank Truck	Flight Posted Re-tail	Gaso-line Taxes
San Francisco, Cal.	10	14	9	12	4.5
Los Angeles, Cal.	9.5	13.5	8.5	11.5	4.5
Fresno, Cal.	11	15	10	13	4.5
Phoenix, Ariz.	12	16	10	13	6.5
Reno, Nev.	12	16	11	14	5.5
Portland, Ore.	10.5	14.5	9.5	12.5	6.5
Seattle, Wash.	10.5	14.5	9.5	12.5	6.5
Spokane, Wash.	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash.	10.5	14.5	9.5	12.5	6.5

	Std. Aviation 73 Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal.	12.5	4.5	11.5
Los Angeles, Cal.	12	4.5	10
Fresno, Cal.	13.5	4.5	12.5
Phoenix, Ariz.	14.5	6.5	12.5
Reno, Nev.	14.5	5.5	13.5
Portland, Ore.	13	6.5	13.5
Seattle, Wash.	13	6.5	13.5
Spokane, Wash.	16	6.5	16.5
Tacoma, Wash.	13	6.5	13.5

Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.

Commercial: Retail deliveries, and/or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries, of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

Canada

PRICES ON IMPERIAL OIL, LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	†Kero-sine T.W.
Hamilton, Ont.	17.5	11	18
Toronto, Ont.	17.5	11	18
Brandon, Man.	21	10	23
Winnipeg, Man.	20.5	10	22.5
Regina, Sask.	18	10	20
Saskatoon, Sask.	20.8	10	22.8
Edmonton, Alta.	18.9	10	20.9
Calgary, Atla.	16	10	18
Vancouver, B. C.	15	10	24
Montreal, Que.	17	11	17.5
St. John, N. B.	16.5	13	19
Halifax, N. S.	16.5	13	19

*Includes 3c Federal, and Provincial taxes.
†To divided & undivided dealers.

Tank Wagon Price Changes

(These changes have been made in price tables)

S. O. New Jersey—Naphthas:

T.W. prices cut 0.4c May 11 at all points shown in price table.

Atlantic Refg.—White Flash Gasoline:

Correction: Hagerstown dealer price 11.55c on and since Apr. 30.

Atlantic Refining—Naphthas:

T.W. prices up 0.5c May 4 at all points shown in price table.

S. O. Louisiana—Esso Gasoline:

Bristol t.w. & dealer up 1.2c May 5. Little Rock t. w. & dealer cut 0.25c Mar. 12; up 0.25c May 5.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Mar. 26, '42)
Bradford-Allegany $3.00
Southwest Penna $2.65
Eureka (West Va.) $2.59
Corning, O. (May 27, '41) $1.31

Posted by The Pennzoil Co. (Mar. 26, '41)
National Transit $2.93*

Posted by Valvoline Pipe Lines (Mar. 26, '42)
Bradford (Elk & McKean Counties, Pa.) $3.00
Warren, Forest, Venango, Clarion & Butler Counties, Pa. $2.93
Alleghany, Beaver, Washington & Greene Counties, Pa. $2.65
West Virginia $2.59
Southeastern Ohio $2.55

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 27, '41)
Midland, Midland County $1.44
Sherman $1.39

Posted by Simrall Corp. (May 27, '41)
Greendale, Porter, Vernon, Crystal & Wise $1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.42
Freeman, Redding, Lincoln & Winterfield $1.39
West Branch-Arenac $1.24
Hamilton-Grout $1.29

Posted by Sohio Corp. (Mich. Div.)
Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41) $1.45
Trenton crude, Monroe Co. (June 2, '41) $1.39

Posted by Bay Pipe Line Corp. (May 27, '41)
Saginaw & Wise $1.44
Buckeye, Bentley & Kawkawlin $1.42
Clare $1.11
Adams (June 1, '41) $1.27

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)
Illinois Basin, including Griffin pool $1.37
Carmi, Storms, Ill. area $1.32
Birk City, Ky. area $1.32
Corydon, Ky. area, Henderson $1.32

Posted by Ohio Oil Co. (May 21, '41)
Illinois Basin $1.37
Eastern Ill. & Western Ind. $1.22

Posted by Carter Oil Co. (May 21, '41)
Loudon, Fayette Co. Ill. $1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)
Southern Illinois $1.37

Posted by Ashland Oil & Transp. Co.
Somerset oil in Ash. Lines, Ky.: (June 19, '41)
Big Sandy River $1.38
Kentucky River $1.43

Posted by Ownesboro-Ashland Co.
Owensboro, Ky. area (May 21, '41) $1.32

Posted by S. O. Ohio (Sept. 1, '41)
Lima, Ohio $1.25
Cleveland, Lodi & Chatham (O). areas $1.30

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3
Below 21	$0.85	$0.75	$0.81
21-21.9	.87	.78	.83
22-22.9	.89	.81	.85
23-23.9	.91	.84	.87
24-24.9	.93	.87	.89
25-25.9	.95	.90	.91
26-26.9	.97	.93	.93
27-27.9	.99	.96	.95
28-28.9	1.01	.99	.97
29-29.9	1.03	1.02	.99
30-30.9	1.05	1.05	1.01
31-31.9	1.07	1.07	1.03
32-32.9	1.09	1.09	1.05
33-33.9	1.11	1.11	1.07
34-34.9	1.13	1.13	1.09
35-35.9	1.15	1.15	1.11
36-36.9	1.17	1.17	1.13
37-37.9	1.19	1.19	1.15
38-38.9	1.21	1.21	1.17
39-39.9	1.23	1.23	1.19
40 & above	1.25	1.25	1.21

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, in Okla. & Kans. beginning with 28-28.9.

No. 2: **Carter** May 20, '41 in Okla. **Shell** Dec. 5, '41 in Okla. & Kans. **Magnolia** May 21, '41 in Okla.

No. 3: All Dec. 11, '41: **Stanolind & Continental** in N. Tex. **Sinclair-Prairie** in N. Central Tex. **Magnolia & Texaco** in N. & N. Central Tex. **Continental, Magnolia & Sinclair-Prairie** schedules begin with Below 29 at $0.97. **Texaco** schedule begins with 28-28.9.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.

(May 21, '41, except Panhandle, Tex. July 9, '41 and W. Central Texas Dec. 11, '41)

Gravity	Refugio	Texas Gulf Coast	Miran-do	Ana-huac	Dick-inson	East Central Texas	West Central Texas	Pan-handle, Texas	W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	.....	.....	$0.73	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	.95	.....	.....	.75	.72	.82
21-21.9	1.12	1.10	1.07	1.02	.97	.....	.....	.77	.74	.84
22-22.9	1.14	1.12	1.09	1.04	.99	.....	.....	.79	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	.....	.....	.81	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	.....	.....	.83	.80	.90
25 & above	.....	.....	.....	.....	.....	.....	.....	.....	.....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.91	.85	.82	.....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.93	.87	.84	.....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.95	.89	.86	.....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.97	.91	.88	.....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.99	.93	.90	.....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	1.01	.95	.92	.....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.03	.97	.94	.....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.05	.99	.96	.....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.07	1.01	.98	.....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.09	1.03	1.00	.....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.11	1.05	1.02	.....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.13	1.07	1.04	.....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.15	1.09	1.06	.....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.17	1.11	1.08	.....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.19	1.13	1.10	.....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.21	1.15	1.12	.....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen,Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manilla, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull, (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gilloc, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, Texas: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

West Texas & New Mexico: Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.43
Tomball 1.40
Van 1.08
Talco 0.79
East Texas & Flag Lake $1.25
Flour Bluff, E. Flour Bluff 1.33
Salt Flat, N. Salt Flat 1.14
Darst Creek, Hilbig, Carroll 1.14
Clark, Zoboroski $1.14
Alice, Benavides (N. Sweden), Sun 1.35
Ben Bolt, Clark-Muil, Tom Graham 1.35
Yates (Pecos) 0.95
La Rosa 1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—(July 9, '41)—Same as Humble except Magnolia begins with below 29 at $0.91.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos., and in Pecos & Andrews Cos. beginning Apr. 1, '42—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.88 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

Mirando, Tex.—Same as Humble.

East Texas $1.25
Darst Creek 1.14
Luling 1.05
Talco ..... .79
Lytton Springs $1.17
Cleveland-Liberty Co. 1.26
Tomball 1.40

SINCLAIR-PRAIRIE OIL MARKETING CO.

Texas Panhandle—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.

West Texas & New Mexico—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—(May 21, '41)—Same as Humble.
Mexia District, Texas—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.
East Texas—(May 21, '41) $1.25
Long Lake, Texas—(May 21, '41) $1.23
Chapel Hill (Washington Co.) Tex.:
Below 50 grav. (Jan 20, '42) $1.18
50 grav. & above (Feb. 2, '42) $1.25

STANOLIND OIL PURCHASING CO.

(May 21, '41)

Clinton, Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.
Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.
Lake Creek, Tex.—(Apr. 9, '42)—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.
E. Texas $1.25
Satsuma & Tomball, Tex. $1.40

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.
Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble West Texas except Stanolind begins with Below 26 at $0.82.
Jay Welder (Calhoun Co., Tex.)—Nov. 14, '41—Same as Humble Anahuac.

THE TEXAS CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9 at $1.03.

W. Texas & Lea Co., N. M.—Same as Humble except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.36.

Duval, Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.26.

East Texas $1.25
Darst Creek, Tex. $1.14
Conroe, Tex. $1.43
Hockley & Cochran Cos., Tex ..... .87

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—(Dec. 11, '41)—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.89.

East Texas $1.25
Livingston field, Polk Co., Tex. $1.25
Pecos Co., Texas, (except Yates Shallow Pool) ..... .95
Pecos Co., Tex., Yates Shallow Pool ..... .82
Mercy field, San Jacinto Co., Tex. (Feb. 27, '42) 1.25

CONTINENTAL OIL CO.

Carson & Hutchinson Cos., Tex.—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

Mirando, Tex.—(July 1, '41)—Same as Humble.

Wade City & Clara Driscoll, Tex.—(July 1, '41)—Same as Humble Refugio.

Alfred & Magnolia City, Tex.—(May 21, '41), $1.35
Eddy Co., N. M.—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

PAN AMERICAN PRODUCTION CO.

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

East Texas $1.25
Cayuga, Tex. ..... .90
Goodrich, Tex. (Dec. 1, '41) 1.20

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S. O. California, May 23, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills-Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Gravity
14-14.9	....	$0.68	....	....	$0.71	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	....	....	....	$0.73	$0.73	$0.73	14-14.9
15-15.9	....	.71	....	....	.75	$0.76	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	15-15.9
16-16.9	....	.74	$0.79	....	.79	.79	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	16-16.9
17-17.9	....	.78	.82	....	.82	.82	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	17-17.9
18-18.9	$0.80	.82	.86	....	.86	.85	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	18-18.9
19-19.9	.84	.86	.90	....	.89	.88	.85	....	.83	.82	.85	.77	....	....	....	....	$0.73	.81	.84	.75	19-19.9
20-20.9	.88	.90	.94	....	.93	.92	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	20-20.9
21-21.9	.92	.94	.98	....	.96	.95	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	21-21.9
22-22.9	.96	.98	1.02	$0.88	.99	.98	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.94	$0.99	....	....	....	.90	1.03	.99	.89	24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	28-28.9
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	29-29.9
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	Elwood	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	30-30.9
31-31.9	....	....	....	....	....	1.24	....	1.25	....	Terrace	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	31-31.9
32-32.9	....	....	....	....	....	....	....	1.29	....	F.o.b. Ship	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	32-32.9
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.22	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	33-33.9
34-34.9	Kettleman Hills						....	1.36	....	1.25	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	34-34.9
35-35.9	....	$1.23	....	....	....	....	....	....	....	1.28	....	1.35	....	....	1.16	1.22	....	....	....	....	35-35.9
36-36.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	36-36.9
37-37.9	....	1.29	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	37-37.9
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	38-38.9
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	39-39.9
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	40-40.9

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
Wheeler Ridge: 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9, $0.73.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al. *	De Soto, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & Above	$1.08	$1.18	$1.20	$1.30	$1.30	....
39-39.9	1.06	1.16	1.18	1.28	1.28	....
38-38.9	1.04	1.14	1.16	1.26	1.26	....
37-37.9	1.02	1.12	1.14	1.24	1.24	....
36-36.9	1.00	1.10	1.12	1.22	1.22	....
35-35.9	.98	1.08	1.10	1.20	1.20	....
35 & above	....	....	....	....	....	$1.36
34-34.9	.96	1.06	1.08	1.18	1.18	1.34
33-33.9	.94	1.04	1.06	1.16	1.16	1.32
32-32.9	.92	1.02	1.04	1.14	1.14	1.30
31-31.9	.90	1.00	1.02	1.12	1.12	1.28
30 & below	....	....	....	....	....	1.26
30-30.9	.88	.98	1.00	1.10	1.10	....
29-29.9	.86	.96	.98	1.08	1.08	....
28-28.9	.84	.94	.96	1.06	1.06	....
27-27.9	.82	.92	.94	1.04	1.04	....
26-26.9	.80	.90	.92	1.02	1.02	....
25-25.9	.78	.88	.90	1.00	1.00	....
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	.88	....	.98	....
23-23.9	.74	....	.86	....	.96	....
22-22.9	.72	....	.84	....	.94	....
21-21.9	.70	....	.82	....	.92	....
Below 21	.68	....	.80	....	.90	....

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

De Soto schedule includes Sabine, Fouke, Homer, Miller co., Nebo & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake) ending with Below 25 at $0.88; Anse La Butte (Aug. 1, '41); Caddo (Oct. 15, 1941). Bunkie schedule includes Eola, Olla, & South Olla.

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie, Distillates (Sour) $1.15
Heavy Smackover Crude ..... .83
Cotton Valley Distillate (Sept. 1, '41) 1.40
Cotton Valley (Holloway Sand Crude) 1.25
Lisbon Distillate 1.20

(Continued next column)

LOUISIANA-ARKANSAS *(Cont'd)*

Posted by Shell Oil Co., Inc. (May 20, '41)

Gravity	Iowa	Roanoke	Gibson
Below 20	$0.99	$0.94	$0.89
20-20.9	1.01	.96	.91
21-21.9	1.03	.98	.93
22-22.9	1.05	1.00	.95
23-23.9	1.07	1.02	.97
24-24.9	1.09	1.04	.99
25-25.9	1.11	1.06	1.01
26-26.9	1.13	1.08	1.03
27-27.9	1.15	1.10	1.05
28-28.9	1.17	1.12	1.07
29-29.9	1.19	1.14	1.09
30-30.9	1.21	1.16	1.11
31-31.9	1.23	1.18	1.13
32-32.9	1.25	1.20	1.15
33-33.9	1.27	1.22	1.17
34 & above	1.29	1.24	1.19

Iowa schedule includes Black Bayou & White Castle Lu. fields.

Roanoke schedule includes Chalkley, La. field.

Gibson schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

Happytown field, St. Martin Par., La. $1.15

Posted by Arkansas Fuel Oil Corp.

Urania, La. (May 22, '41) $1.15

Posted by Continental Oil Co. (May 21, '41)

Tepetate, La. $1.18
Ville Platte, La. 1.20
Lake Arthur, La. 1.18
Ritchie, La. (Sept. 1, '41) 1.08

Abbeville, La.

Below 36 $1.07	37-37.9 ... $1.11	39-39.9 ... $1.15
36-36.9 ... 1.09	38-38.9 ... 1.13	40 & above 1.17

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (July 16, '41)

(Prices FOB producer's tankage)

33-33.9 ... $1.35	44-44.9 ... $1.57	55-55.9 ... $1.79
34-34.9 ... 1.37	45-45.9 ... 1.59	56-56.9 ... 1.81
35-35.9 ... 1.39	46-46.9 ... 1.61	57-57.9 ... 1.83
36-36.9 ... 1.41	47-47.9 ... 1.63	58-58.9 ... 1.85
37-37.9 ... 1.43	48-48.9 ... 1.65	59-59.9 ... 1.87
38-38.9 ... 1.45	49-49.9 ... 1.67	60-60.9 ... 1.89
39-39.9 ... 1.47	50-50.9 ... 1.69	61-61.9 ... 1.91
40-40.9 ... 1.49	51-51.9 ... 1.71	62-62.9 ... 1.93
41-41.9 ... 1.51	52-52.9 ... 1.73	63-63.9 ... 1.95
42-42.9 ... 1.53	53-53.9 ... 1.75	64 & over 1.97
43-43.9 ... 1.55	54-54.9 ... 1.77	

Absorption Gasoline (July 16, '41)

90% Rec., 20 lb. Reid v. p. $2.28
90% Rec., 17 lb. Reid v. p. 2.44

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29 $0.96	32-32.9 ... $1.04	36-36.9 ... $1.12
29-29.9 ... .98	33-33.9 ... 1.06	37-37.9 ... 1.14
30-30.9 ... 1.00	34-34.9 ... 1.08	38-38.9 ... 1.16
31-31.9 ... 1.02	35-35.9 ... 1.10	39-39.9 ... 1.18
		40 & above 1.20

Wyoming:		Wyoming:	
Tensleep Crude	$0.6785	Grass Creek Light	$1.00
Frannie Light	.70	Grass Creek Heavy	.50
Frannie Heavy	.47	Elk Basin	1.00
Hamilton Dome	.45	Iles, Colo.	1.07

Posted by Ohio Oil Co. (May 20, '41)

Elk Basin, Wyo. $1.00
Grass Creek Wyo., Light 1.00
Rock Creek, Wyo. 1.15
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Continental Oil Co. (May 21, '41)

Ft. Collins & Wellington, Col.

Below 29 $0.96	32-32.9 ... $1.04	36-36.9 ... $1.12
29-29.9 ... .98	33-33.9 ... 1.06	37-37.9 ... 1.14
30-30.9 ... 1.00	34-34.9 ... 1.08	38-38.9 ... 1.16
31-31.9 ... 1.02	35-35.9 ... 1.10	39-39.9 ... 1.18
		40 & above 1.20

Canon City & Florence, Col. $1.05	Big Muddy, Wyo., (May 30, '41) ... $1.08
Cat Creek, Mont. .. 1.15	Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Independent Pipe Line Co. (Aug. 1, '41)

Falls City, Neb., field price $0.90
Falls City, Neb., loaded in tank cars 0.95
Shubert, Neb., loaded in tank cars 0.97

SOUTHEASTERN FIELDS

Posted by Allied Pipe Line Corp.

Tinsley (Miss.) Crude (Oct. 16, '41)

24-24.9 ...	$0.745	32-32.9 ..... $0.905
25-25.9	.765	33-33.9 ..... .925
26-26.9	.785	34-34.9 ..... .945
27-27.9	.805	35-35.9 ..... .965
28-28.9	.825	36-36.9 ..... .985
29-29.9	.845	37-37.9 ..... 1.005
30-30.9	.865	38-38.9 ..... 1.025
31-31.9	.885	39-39.9 ..... 1.045
		40 & above 1.065

Pickens (Miss.) Crude (Dec. 16, '41)

24-24.9	$0.685	32-32.9 ..... $0.845
25-25.9	.705	33-33.9 ..... .865
26-26.9	.725	34-34.9 ..... .885
27-27.9	.745	35-35.9 ..... .905
28-28.9	.765	36-36.9 ..... .925
29-29.9	.785	37-37.9 ..... .945
30-30.9	.805	38-38.9 ..... .965
31-31.9	.825	39-39.9 ..... .985
		40 & above 1.005

CLASSIFIED

Address Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

Position Wanted

EXECUTIVE SEEKS POSITION. At present conducting own business. Now victim priorities. Service station supervisor and owner of several major operated stations. Energetic successful business man. Full knowledge of commercial law. Exempt from war duty. Pleasing personality. Middle age. Christian. Address Box No. 106.

Wanted to Buy

FRUEHAUF SEMI TRAILER 2500 or 3000 gallon three or four compartment aluminum tank, quote cash price, weight, etc. Monarch Oil Co., Hopkinsville, Ky.

WANTED TO BUY. Transport Trucks with minimum capacity of 3,000 gallons. Address Box No. 102.

STEEL STORAGE TANKS

5000 to 20,000-gallon horizontal steel storage tanks, above ground. Send size and best price in letter.

Address Box No. 107
National Petroleum News

For Sale

One Blackmer twin pump 3 H.P. Direct connected motor, 100 gallon per minute. One Viking 2" pump, belt driven. Six Bowser flood lights, quantity pipe, valves and fittings. All in A 1 condition. Gage Petroleum Co., Inc., Cazenovia, N. Y.

1932 Diamond T Model 603-B, 10 wheeler, good condition, tires good, with 2515 gals.—5 compartment tank with pump and 2-2½" hoses, 2 quick couplers complete $1500.00. Berard's Petroleum Transportation, 1063 Lonsdale Ave., Central Falls, R. I.

Six gasoline transports from 3200 gallon each to 4000 gallons, complete with tractors. Immediate delivery, in excellent condition with good tires. Call, wire or write G. E. Bobbitt, Raleigh, N. C.

TRUCK TANKS

An Eastern Manufacturer has on hand a limited number of new 1950 gallon truck tanks for immediate shipment. Specifications and prices on request.

Address Box No. 98

FOR SALE

WORTHINGTON CENTRIFUGAL PUMPS

with Motors—Slightly Used

1—Serial No. 790293—5", 5 stage, 6" suction. Name plate rating, 500 GPM, 1050 ft. Total Dynamic head, 1750 RPM, 300 HP, 5" discharge.
1—Serial No. 768147, 5", 5 stage, 5" discharge, 6" suction. Name plate rating, 1000 GPM, 750 ft. Total Dynamic head, 1750 RPM, 300 HP.
1—Serial No. 736268—5", 5 stage, 5" discharge, 6" suction. Name plate rating, 1000 GPM, 750 ft. Total Dynamic head, 1750 RPM, 300 HP.

Offered subject to prior sale!

Shipment at once from Granite City, Ill. Performance Curves, Outline drawings will be furnished upon request.

Write for prices!

General Steel Castings Corporation
GRANITE CITY, ILLINOIS

SMALL REFINERY FOR SALE

A rare opportunity for an oil refiner to buy a small and complete plant for refining crank case oil, lubricating distillates, etc. Steel & asbestos buildings, 3 acres land, complete equipment. Tank capacity 209,000 gallons. Compressors, oil coolers, pumps, steam lines, two Scotch boilers, laboratory, still, condenser, sectional dephlegmator. Located in Philadelphia near Atlantic Refining, Gulf, and Standard of N. J. main plants.

With war restrictions on oil this plant answers a difficult problem. Circular mailed upon request.

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A nearly new 3500 gallon 3 compartment Butler Twin Semi-Trailer tank transport with 1942 Ford Tractor. Extra tires and extra gears, all good as new.

If preferred will take gasoline; kerosene and fuel oil in payment to be delivered in tank cars. For responsible concerns will bring the same and make trial runs to show its worth.

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Copy must reach us not later than Saturday preceding date of issue.

All advertisements carried on this page are payable in advance.

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These rates were effective February 25, 1942

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Washington, D. C., 803-805 National Press Bldg., Telephone, NAtional 3478.

Tulsa, Okla., 904 World Bldg., Telephone, 3-7132.

Los Angeles, 610-A Hillstreet Bldg., Telephone, VAndike 2845.

Chicago, 59 E. Van Buren Street, Telephone, Harrison 5901-2-3.

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PERSONALS

It's **Major John King,** U. S. Army, now instead of Sales Engineer King of the Pennzoil Co. He reported for duty in the procurement division at Washington, D. C., two weeks ago. Major King is moving his family there from Oil City, Pa.

* * *

Earl Shelton, Shell's Cleveland Division sales promotion manager, is spending an early vacation in Indiana and Illinois. Mr. and Mrs. Shelton will visit New Orleans before returning to Cleveland. The seven little Sheltons are not accompanying their parents.

* * *

John M. Sand, formerly of John Sand Oil Co., Menomonie, Wisc., recently replied to an NPN communication to **William Sand** of the same company, in these terse and to the point words: "Our business is now leased; William is serving his country in Uncle Sam's War Corps."

* * *

Erwin J. Janicke, Shell representative out of the Chicago office, tells NPN from "somewhere in the USA" that he is now on active duty as 2nd Lieutenant in the Army Air force.

* * *

Walter Risch, assistant automotive sales manager, Cleveland division of Socony-Vacuum, has just returned from a two-weeks' vacation to Arizona.

* * *

Eight directors of Tide Water Associated Oil Co., New York, whose terms had expired, were re-elected May 7 to serve for three years. They are: **Alden Anderson, George Armsby, L. F. Bayer, Samuel A. Bishop, B. I. Graves, George J. Hanks, L. D. Jurs and Edward H. Salrin.**

* * *

Fred Scheiderer, one of the partners of Penn Oil Co., Marysville, Ohio, recently joined the army, and is in an officer's training school.

Conger Reynolds, director of public relations, Standard Oil Co. of Indiana, has been appointed chairman of public relations division of United Service Organization's campaign in Chicago. The campaign is for the purpose of raising $1,749,432 for U. S. O. in the Chicago area.

* * *

H. Shepard Cornell, general manager of the Mergraf Oil Co., Detroit, has received a Captain's commission in the U. S. Army Air Corps, and is now stationed at a flying field in Oklahoma.

* * *

Just watch **W. R. "Bill" Boyd** call those Petroleum Industry War Council meetings to order now!

Reason? A handsome new gavel and block, the gift of **N. H. Weber,** vice-president of Pure and president of the National Petroleum Assn. Mr. Weber, noticing that P.I.W.C. Chairman Boyd usually got attention by rapping with an old pocket knife during Washington meetings of the war council, had the gavel and block made. "This, of course, to save Government property," explains *Pure Oil News.*

Not satisfied with anything carrying a non-oil tint, Mr. Weber went all-out for "oily" equipment, with wood for the gavel—Arizona ebony—coming from the ranch of Charles L. Suhr, a former president of N.P.A. and chairman of the board of The Pennzoil Co. Wood for the block was cut from a tree on the Van Lease in Van Zandt county, Texas.

"Bill" Boyd's new gavel

THE LAY OF THE LAST MOTORIST

By FALSTAFF OPENSHAW

Poet Laureate of the Texaco Star Theater

Breathes there a man whose tires are spread
Who never to himself hath said,
"Where can I get a new retread?"
Whose lack of shoes to run his sedan
Hath not caused him to rant and curse Japan
And the O. P. M. for his rubberless can?

If such there breathe, bid him still his blubber—
The fault is his that he has no rubber.
He jammed on his brakes. He tried to pass
Every car on the road—with both feet on the gas.

Today his song of the road is sung.
By his tire-less car he stands unstrung.
Men pass him by, both old and young,
Unwept, unhonored, and his chassis sprung.

So heed ye the plight of this motoring jerk
With no car today. He walks to work.
To preserve your rubber, slow down, Sporty—
For life for your tires begins at forty.

—*From Texaco Dealer, May,* 1942

Dr. M. G. Paulus, Whiting, vice president in charge of manufacturing for Indiana Standard, presented a gold watch to **Henry W. Haman** in honor of his completion of 50 years service for the company. Mr. Haman is night superintendent for the heavy oils division at the Whiting refinery. The watch was an award from the company's board of directors.

* * *

Dr. Thomas Midgley, Jr., vice-president of Ethyl Gasoline Corp., will be presented the Willard Gibbs medal for 1942 in Chicago on May 22nd. Dr. Midgley will give an address at the award meeting on "a critical examination of some concepts in rubber chemistry". The award is one of the highest distinctions in chemical science and is made by the Chicago Section of the American Chemical Society.

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LONG-DISTANCE CALLS

How many times have you made urgent long-distance 'phone calls in the last 90 days? How many of these expensive calls were made necessary by some rumor which was supposed to have originated in Washington?

You can reduce this needless telephone expense by having the facts—all the facts—on your desk, right in front of you, all the time. Your source for these important facts?—Oilgram and Oil-Law-Gram.

Oilgram News gathers all the important oil news from the Atlantic to the Pacific and from Key West to Duluth, every business day. This fresh, vital news is published the same day and then rushed to subscribers via first class and air mail, to be on executive-desks early next morning. The "news" Oilgram brings you is sifted, checked, and condensed to be read in 10-minutes or less. You'll like Oilgram's terse, factual style.

Oil-Law-Gram is also a real "rumor-killer" because it brings you (usually within 36-hours after issuance) the verbatim text of all official government orders and laws that affect oil, whether these orders be issued by Ickes in Washington or by special committee-action in some other city. Oil-Law-Gram brings you the law—the actual rules by which to operate your business—exactly as written, comma-for-comma.

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E. & M. Aivazian Bros.
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IN your service stations today are the gasoline pumps which may have to serve you until the War is won.

Marketers whose pumps are Gilbarco Model 96 Calco-Meters are prepared for this with equipment which has demonstrated in thousands of stations its ability to keep on running.

As the weeks and months go by, owners of Gilbarco Calco-Meters will receive each passing day further confirmation of their wisdom in equipping their stations with the "Million Gallon Pump."

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